The Evaluation Casebook

Using Evaluation Techniques

to Enhance Program Quality

in Addictions

PREPARED BY

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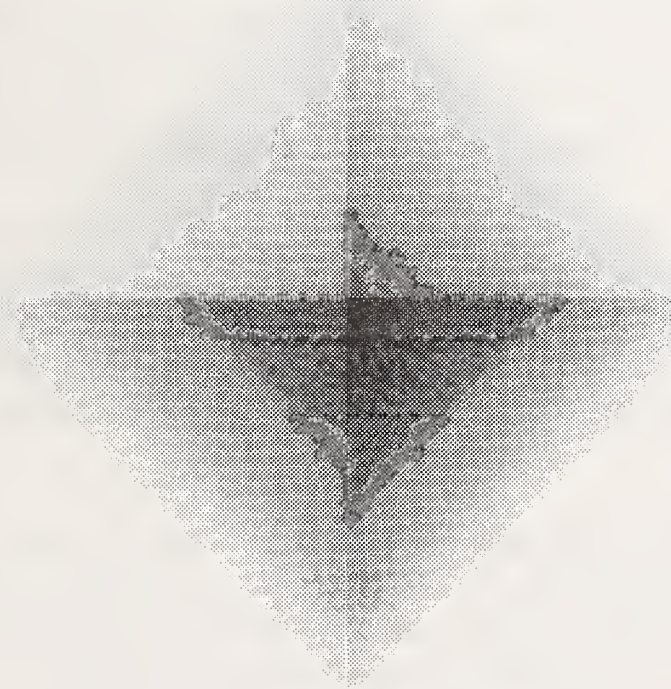Joan Marshman
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Preface

This casebook provides concrete (fictional) examples that demonstrate many aspects of how addictions programs can use evaluation techniques (ranging from very simple questions to fairly large scale evaluations) to address quality enhancement questions. The assumption is that people can learn about evaluation by reading concrete examples of evaluations that have been used in programs similar to the particular reader's program of concern. For example, a program manager of an addictions treatment program might first examine some of the treatment examples. The first concern in designing the casebook was that there be a range of programs described so that each reader can find an example using a program similar to the program with which he or she is involved.

Another concern was that each level of evaluation be illustrated by one or more examples. In addition, it was intended that the examples include a range of levels of difficulty and resource needs. These are indicated on the first page of each section of the example. Finally, the examples are organized so that the sections within them usually proceed from the less complex to the more complex.

Many methodological, measurement and ethical issues are covered throughout the casebook. Specific issues can be located by using the indices in Part III. Major methodological or other issues that arise in a particular example are described more fully in a box following the example. The casebook can be used both by browsing through examples of interest and by using the indices to find examples of particular kinds of evaluation.

It is hoped that the range of case examples will illustrate both the opportunities and difficulties of program evaluation. Examples are provided to show that some apparently simple quality enhancement questions may require expensive and sophisticated evaluation methods. Alternate examples illustrate that it is possible to address other useful quality enhancement questions using simple and inexpensive procedures. Thus, the collection of examples should convey both the humbling and the exciting aspects of program evaluation.

Acknowledgements

CAUTION: ALL CASE EXAMPLES ARE FICTIONAL !

All case examples provided in this casebook are fictional and do not reflect real findings from evaluations of addictions programs. In some cases, the idea for the example came from a real evaluation. However, in all cases, methods and results were altered in order to present evaluation techniques as clearly as possible.

We would like to acknowledge the following reports that were used as sources of ideas for some examples, but we must emphasize that the related examples do not necessarily reflect either the methods actually used in these studies or the results found in them.

Gliksman, L., Hart, D., Simpson, R., & Siess, T. (1987). Progress on campus: Evaluation of the Campus Alcohol Policies and Education (CAPE) program. Toronto: Addiction Research Foundation.

Graham, K., Saunders, S.J., Flower, M.C., Birchmore Timney, C., White-Campbell, M., & Zeidman, A. (In press). Addictions treatment for older adults: Evaluation of an innovative client-centred approach. (217 pages). New York: Haworth Press.

Love, A.J. (1992). The evaluation of implementation: Case studies. In J. Hudson, J. Manyne & K. Thomlison (Eds.) Action-oriented evaluation in organizations. Canadian practices. (pp. 137-138). Toronto, Ontario: Wall & Emerson.

Steffens, C., Carver, V., Pinder, L., & Johnston, J. (1985). The development and evaluation of a treatment program designed specifically for women. Proceedings of the 34th International Congress on Alcohol and Drug Dependence, August 4 - 10, 1985, Calgary, Alberta.

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I. INTRODUCTION

How are program evaluation and quality enhancement related?

Program evaluation is the term used to describe methods, designs and theories that are used to evaluate interventions (i.e., programs) in real-life contexts. Classical program evaluation emerged primarily out of education and psychology and is rooted in quantitative social science methods. Quality theory and practices (i.e., quality assurance, quality improvement, quality enhancement) are related to program evaluation, but emerged mostly from business and management. Recent thinking in quality enhancement, however, indicates a merging of program evaluation techniques within quality enhancement structure and questions.

Quality enhancement focuses on identifying specific system problems, collecting relevant data, and using data to identify solutions for the problems. As will be explained in the following sections, program evaluation techniques can be useful at each stage of the quality enhancement process.

Program evaluation includes more than evaluating program effectiveness.

Many people, when they think "program evaluation", think of one question "Is this program effective?" In the additions field, "effectiveness" is usually taken to mean that a prevention program can actually be shown to prevent alcohol and drug problems and that people attending a treatment program actually stop using alcohol and other drugs. However, evaluating the ultimate effectiveness of a program is rarely an easy process. For programs delivering human services, the following questions need to be addressed in order to demonstrate that the program is effective:

- Do those who receive the program achieve better outcomes than those who do not receive the program? (For example, is there a higher rate of reduced drinking among clients who attend an addictions treatment program than among a comparable group of people who have drinking problems but who do not attend the program? Do school children who receive alcohol and drug education develop fewer alcohol and drug problems in later life than a comparable group of children who do not receive alcohol and drug education?)

- Why do people who attend the program achieve better outcomes than those who do not? (i.e., If the program consists of many services, which services are effective? If people provide the service, to what extent do outcomes depend on the skills or personality of the service providers?)

- Is the program 100% effective for all who receive it? If not, do some kinds of people benefit more than others?

In sum, the question "Is this program effective?" actually includes *at least* the following questions:

- Is this program more effective than no program? A different program?
- Which aspects of the program are effective?
- For whom is the program effective?

Clearly, except for very simple programs, addressing the question "Is this program effective?" can be a costly and difficult (sometimes impossible) task. When evaluation is defined so narrowly, it is unlikely to be used by programs except in rare circumstances where research and other resources are available. However, as already stated, program evaluation includes methods and designs that can be used to address a variety of evaluation questions, not just overall effectiveness.

For example, evaluation techniques provide methods for framing quality enhancement questions, for collecting data to address quality enhancement questions, and for testing possible solutions to quality enhancement questions. For example, one technique of program evaluation is "rationale assessment". This procedure examines the assumptions of a program or system – why certain things are done and how these relate to the program's objectives. The process of systematically examining the rationale of a program can identify potential problems that form the basis of quality enhancement questions. Program evaluation also includes monitoring implementation of programs. This approach can be used to collect data to address specific quality enhancement questions as well as to identify new questions. Finally, evaluation also includes approaches to measuring costs and outcomes, both of which are relevant to many quality enhancement questions.

Types of questions leading to program enhancement

Human services programs (including addictions programs) tend to change or evolve over time. Consequently, program evaluation should be part of the ongoing process of quality enhancement, where information is collected and used to advance the program towards its goals. Examples of program evaluation questions posed as part of quality enhancement include:

- Does our program contain all the parts necessary to achieve our program goals?
- Does the program address the major needs of its clients/consumers?
- Is the program serving the clients/consumers it was intended to serve?
- What proportion of clients/consumers who participate in the program achieve positive outcomes?
- In what areas do the most clients/consumers change?
- What services are provided to each client/consumer?
- Does the program make use of other community resources? Do other community resources make appropriate use of the program?
- Which of several acceptable ways of delivering service costs the least?

Who asks quality enhancement questions?

Anyone involved with a program may think up a question that could lead to collecting evaluation information useful for enhancing the program. The program manager may be the most likely person to raise such questions, because he or she is responsible for optimizing the operation of the program. However, questions pertaining to program quality can come from a variety of sources including:

- program manager
- program staff
- program clients/consumers
- program board
- program funder
- other programs
- community groups
- researchers.
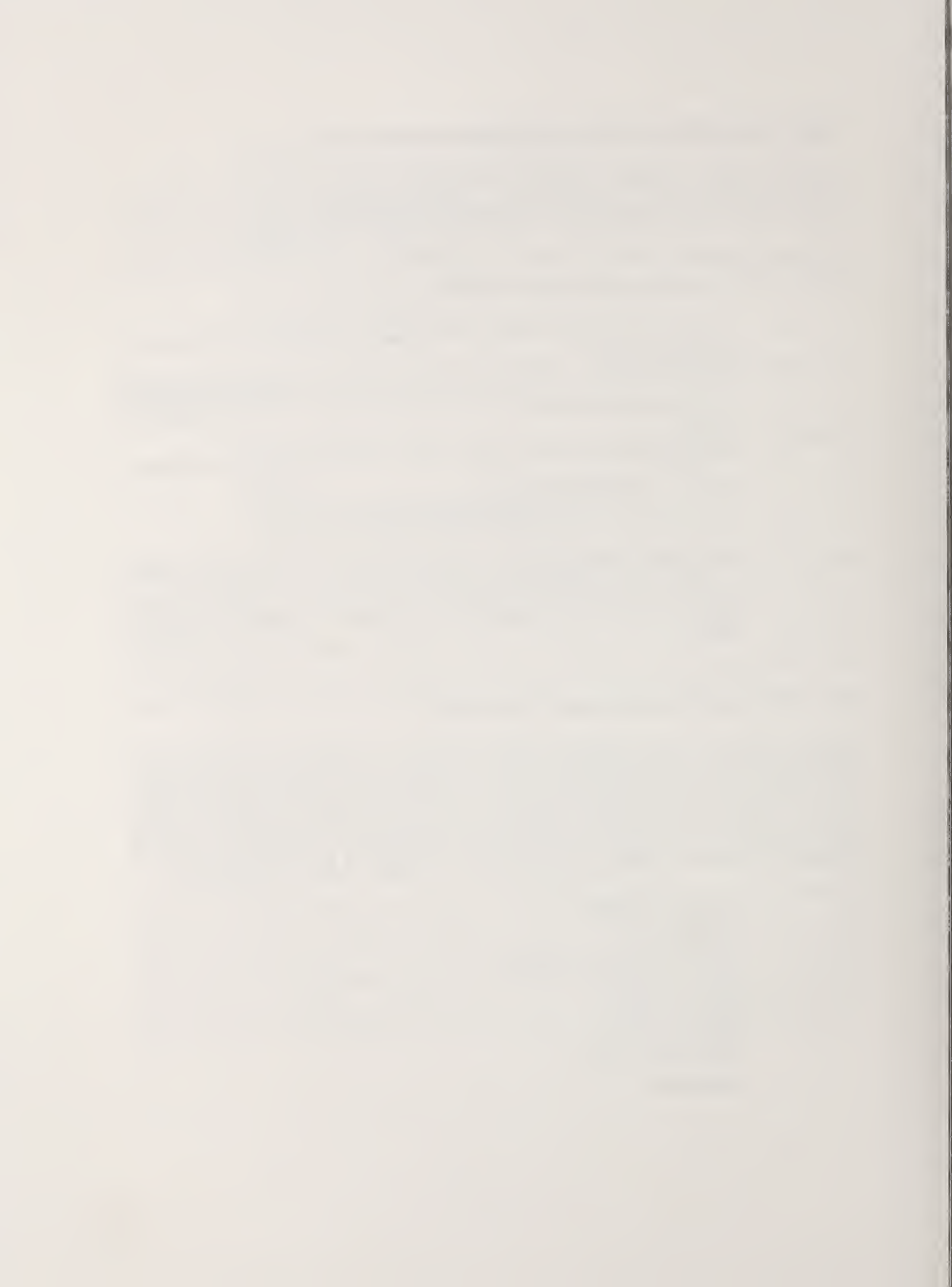
II. EVALUATION FRAMEWORK USED IN DEFINING QUALITY ENHANCEMENT QUESTIONS

To provide a simple organization for asking quality enhancement questions, the following framework of evaluation levels was adopted:

- Needs Assessment
- Logic Model
- Client/Consumer Characteristics
- Program Delivery
- Outcome Evaluation
- Client/Consumer Satisfaction
- Economic Evaluation.

These levels have been adopted as those most likely to be useful for program staff and others who are not experienced evaluators who want to begin to use quantitative evaluation techniques to address quality enhancement questions. The following describes the kinds of questions that might be addressed at each level.

- Needs Assessment
    - Is there a need for this kind of service in this community?
    - What are the characteristics of people who might use the service?
    - How many beds/staff/other facilities are likely to be needed?

- Logic Model
    - What are the components of the program?
    - What are the objectives of each component?
    - How does each component relate to the overall goals of the program?

- Client/Consumer Characteristics
    - What are the characteristics of people who attend the program?
    - To what extent is the program reaching the people it was intended to reach?

- Program Delivery
    - How many direct contact hours (on average) does each client receive?
    - How many pamphlets were distributed?
    - How many clients received each component of the program?

- Outcome Evaluation
    - What proportion of clients complete treatment?
    - What proportion of clients have reduced or eliminated substance abuse following treatment?
    - To what extent have clients improved their level of self-esteem following treatment?
    - To what extent did students receiving drug education increase their knowledge of the risks of drug use?

- Client/Consumer Satisfaction
    - Which parts of the program did clients/consumers find most helpful? least helpful?
    - To what extent did clients feel their needs were met?
    - Why do people drop out of the program?
    - How do other agencies perceive the program in terms of accessibility and quality?

- Economic Evaluation
    - What is the average cost per client of providing the program?
    - What is the cost per client of the day program compared to the outpatient program?
    - What proportion of program costs are attributable to no-shows?

Other evaluation terminology

Readers of articles or books on program evaluation will have encountered other evaluation terms than the ones defined here. The following table shows how the evaluation categories used in this document relate to other commonly used evaluation terms.

Evaluation Terminology

Level of Evaluation	Related Evaluation Terms	Description
Needs Assessment		Collection of information to be used in developing appropriate interventions regarding a specific problem or goal.
Logic Model	Program Rationale Evaluability Assessment	Identification of hypothetical causal linkages between what is done by the program and the program's goals. The Logic Model provides a structured method for defining the rationale of the program.
Client/Consumer Characteristics and Program Delivery	Process Evaluation Implementation Evaluation Formative Evaluation Input Evaluation	Measuring what is done by the program and to whom. Although identifying client/consumer characteristics and monitoring program delivery are generally both done as part of process evaluation, this casebook considers the two aspects separately.
Outcome Evaluation	Effectiveness Evaluation Summative Evaluation	Outcome evaluation involves monitoring the status of clients/ consumers following the intervention compared to their status prior to the intervention (e.g., decreased alcohol consumed, increased knowledge of risks of drug taking). Effectiveness or Summative Evaluation uses outcome information with appropriate control conditions to assess the overall effectiveness of a program.
Client/Consumer Satisfaction	Client/Consumer Feedback	Obtaining feedback from users of the program regarding their perceptions of the program (e.g., usefulness of the program, pleasantness of program environment, etc.).

Level of Evaluation	Related Evaluation Terms	Description
Economic Evaluation	Cost-Effectiveness Evaluation	Cost-effectiveness evaluation combines cost evaluation and effectiveness evaluation. It compares alternative program options, or program vs. "no program" options, from a particular perspective (e.g., the perspective of the treatment centre). It can then yield an estimate of the extra cost (or cost saving) incurred in providing a specified program per unit of effectiveness (e.g., per additional smoker who quits as a result of the program).
	Cost-Benefit Evaluation	Cost-benefit evaluation attempts to determine whether the beneficial consequences of a program justify its cost; i.e., to assess the net monetary benefit gained as a result of a specified program, compared to an alternative program (or a "no program" condition). For cost-benefit evaluations, the consequences of alternative programs are valued in financial terms, and the difference in these values is compared with the difference in program costs.
	Cost-Offset Analysis	The term "cost-offset analysis" is sometimes used to describe an evaluation that considers a narrow range of benefits and values from a very limited perspective (e.g., an evaluation to determine if an insurer's costs in broadening a policy's range of insured health services will be at least equalled by the insurer's savings in subsequent periods).

A step-by-step approach to questions involving more than one evaluation level

Often quality enhancement questions involve more than one evaluation level. For example, one may wish to know whether those who have more severe alcohol problems receive more services than those who have less severe problems (Client Characteristics and Program Delivery). Or do those who receive more services do better in the program (Program Delivery and Outcome Evaluation)? Or do those who rate the drug education as most useful also show the greatest increases in knowledge (Consumer Satisfaction and Outcome Evaluation)?

It is possible to break down each of these questions by addressing the individual evaluation levels first, and then using this information to consider the more complex question. For example, the first question can be divided into three steps. The first step addresses the question: "What is the severity of alcohol problems among clients who enter the program?" In this step, each client who enters the program during a specific period (e.g., a year) would be scored according to problem severity. To use a simple scoring method, the ratings might be low severity, medium severity, and high severity. The second question would be: "How many hours of service does each client receive?" The program might use logs to record all time spent by counsellors with each client. From this the total number of hours of service received is calculated for each client. With these two steps completed, the information is now available to address the original, more complex, question: "Do clients who have more severe alcohol problems receive more services than those with less severe problems? To answer this question, the clients can be grouped into three categories: low severity, moderate severity, and high severity. The average number of hours of service for each group can then be calculated. Assume the following results were obtained: low severity – 4.2 contact hours, moderate severity – 5.6 contact hours, and high severity – 8.0 contact hours. These results would indicate that, indeed, those with more severe problems receive more services. This information might help the program to assign appropriate caseloads or to investigate other more efficient means of providing extra help to those who have more severe problems.

Each case example is broken down in exactly this fashion. Simple questions at one level of evaluation are considered, and then, for most examples, more complex questions are addressed by building on the initial questions.

Questionnaires, tables/graphs, computer software, and statistics

Questionnaires. Wherever practical, sample questionnaires are included in examples that use questionnaires. These are intended to show the manner in which questionnaire data are used to address quality enhancement questions.

Tables and graphs. Nearly every example contains tables and graphs. These are intended to demonstrate typical methods for summarizing results.

Computer software. While the focus of this document is primarily on using evaluation techniques to identify and address quality enhancement questions, practical approaches to analyzing and presenting findings (including use of computer software) were included to help facilitate the use of evaluation

techniques. Specific software programs for IBM-compatible PCs are described and used in some examples. In particular, three software programs are described: EPI INFO, LOTUS 1-2-3, and Harvard Graphics. EPI INFO is a "share-ware" (i.e., can be copied freely for use by others) statistical software package that can produce basic statistics for people who do not have extensive knowledge of statistics. Of the software investigated for use as an example for this casebook, EPI INFO seemed to be the most accessible, both for cost (there is a $50.00 charge for the manual) and for ease of use. Some analyses and graphs are shown using LOTUS 1-2-3. This program was selected for use in the casebook because many agencies already use LOTUS 1-2-3. Finally, Harvard Graphics was chosen as a commercial graphics package that is in common use. It should be stressed, however, that the selection of these programs is *not* intended as a strategy to promote these particular products. There are many other statistical and graphics software programs that could be used instead of the ones featured in this casebook. However, for many examples, computers would be useful, if not essential, for analyzing the data, and the three programs described in detail are readily available and fairly easy to use.

The examples vary in level of difficulty from those that involve minimal data collection where the results can be tabulated by hand to fairly sophisticated evaluation research. Most examples use EPI INFO or LOTUS 1-2-3 to calculate statistics and LOTUS 1-2-3 and Harvard Graphics to generate graphs. A few more complicated examples use more sophisticated statistical software (SPSS). This more sophisticated software is not described in detail within the casebook, since background training for using this software goes beyond the scope of the present document.

Statistics. Most examples use descriptive statistics (frequencies, averages, percentages, etc.). In a few more complex examples, inferential statistics are also used. Inferential statistics are ones that assess the generalizability of findings (e.g, t-test, ANOVA, Chi-square test). Findings that are assessed for generalizability use the concept of "statistically significant". Since the present casebook is intended to demonstrate some basic approaches to evaluation and not intended to teach statistics, statistical significance and other aspects of statistics are not explained in detail. For references in statistics, see the annotated bibliography. At the same time, the casebook is likely to be used by program managers and others who have a range of background education, including some who are trained in using and interpreting inferential statistics. For this reason, the casebook includes some fairly sophisticated examples (where some background knowledge is assumed), as well as some fairly easy examples.

III. INDEX OF CASE EXAMPLES BY RELEVANT EVALUATION AND QUALITY ENHANCEMENT CONCEPTS

This casebook provides concrete (fictional) examples that demonstrate many aspects of how addictions programs can use evaluation techniques (ranging from very simple questions to fairly large scale evaluations) to address quality enhancement questions. The assumption is that people can learn about evaluation by reading concrete examples of evaluations that have been used in programs similar to the particular reader's program of concern. For example, a program manager of an addictions treatment program might first examine some of the treatment examples. The first concern in designing the casebook was that there be a range of programs described so that each reader can find an example using a program similar to the program with which he or she is involved.

Other issues that help frame quality enhancement questions include: the level of evaluation addressed (e.g., client/consumer characteristics, program delivery, outcome, economic); the nature of the client/consumer population (e.g., youth, elderly, women); and the level of knowledge and resources available for addressing the quality enhancement questions. For example, a program manager might be considering examining consumer satisfaction and might like to look at all the examples that look at this issue. A reader interested in a specific program for women might want to look at examples that involve women. Finally, a person inexperienced in evaluation might first want to read the easy examples requiring minimal resources to get a feel for the kinds of questions with which he or she might be able to begin using evaluation. These issues are indexed in the following three sections.

The final section provides a comprehensive index to a variety of evaluation and quality enhancement practices and concepts ranging from computer software to confidentiality.

Case examples by level of evaluation

The examples each contain evaluation/quality enhancement questions for several levels of evaluation. The following shows which examples address each level of evaluation.

Needs Assessment:	Examples E1, J1
Logic Model:	Examples A1, B1, D1, G1, K1
Client/Consumer Characteristics:	Examples C1, D2, F1, G2, H1, I1, J2, L1
Program Delivery:	Examples A2, B2, D3, F2, I2, K2, K3
Outcome Evaluation:	Examples A4, B3, D4, G3, I3, L2, L4
Client/Consumer Satisfaction:	Examples A3, C2, F3, H2, K4
Economic Evaluation:	Example D6
Client/Consumer Characteristics by Program Delivery:	Examples I4
Client/Consumer Characteristics by Outcome Evaluation:	Examples L3
Program Delivery by Outcome Evaluation:	Examples D5, J3
Client Characteristics by Client/Consumer Satisfaction:	Examples C3, H3
Program Delivery by Client/Consumer Satisfaction:	Example F4
Outcome Evaluation by Client/Consumer Satisfaction:	--

Case examples by client/consumer population

In addition to using a range of addictions programs as examples, the examples include a variety of client/consumer populations. The following lists the consumer populations by examples that focus on these populations.

Youth:	Examples A, H
Older Persons:	Example I
Women:	Examples G, L
Parents of Adolescents:	Example C
University Students:	Example B
Workplace:	Examples A, D, F
General Population:	Examples A, E, J, K
Long-term heavily dependent drinkers:	Example J

Case examples by level of difficulty and resources needed

With the exception of the Logic Model, each part of the examples is rated for the **level of difficulty** and level of resources needed. Parts rated "easy" are able to be done by novice evaluators. Those rated "moderate" may involve more knowledge about data collection and analysis, or may involve more methodological, measurement, or ethical issues. Parts rated "difficult" usually require some knowledge about evaluation, research design, and statistics, and would not be appropriate for the novice evaluator to attempt.

In terms of resources, a rating of "minimal resources" indicates that the questions can be addressed with minimal human effort and no special equipment or materials. Those questions requiring moderate resources are more likely to require a computer and software, and they may take more time to complete. Those questions requiring heavy resources would not be appropriate for most agencies who do not have in-house evaluation resources or funding available for supporting the evaluation.

Easy/Minimal Resources:	Examples A2, A3, C1, F2, H2, I1, I4, K4
Easy/Moderate Resources:	Examples C2, C3, G2, G3, H1, H3, I2, I3, L2
Easy/Heavy Resources:	--
Moderate/Minimal Resources:	--
Moderate/Moderate Resources:	Examples A4, D3, F1, F4, J1, J2, K2, K3, L1
Moderate/Heavy Resources:	Examples B2, D2, D4, D5, F3
Difficult/Minimal Resources:	--
Difficult/Moderate Resources:	Examples L3
Difficult/Heavy Resources:	Examples B3, D6, E1, J3, L4

Comprehensive index: Case examples by evaluation and quality enhancement practices and concepts

IV. BASIC FORMAT USED IN THE CASE EXAMPLES

Except for the part of examples where a logic model is presented, each part of the examples uses the same standard format. This format covers: why the particular questions were chosen, the resources needed, how the information was collected and analyzed, what was found out (i.e., the results of the evaluation), how the findings were used, and the methodological measurement and ethical issues relevant to the example.

The one part of some examples that does not follow this format is the logic model. The logic model is a general tool used to understand the rationale guiding a program. The logic model provides an evaluation in its own right as it forces the program to undergo scrutiny and clearly define how and why things are done within the program. In addition, the logic model provides a tool for identifying quality enhancement questions that are likely to have an impact on program operations. Finally, the logic model or some other process of rationale assessment should always be completed before a large scale evaluation is undertaken.

General format of examples

Each case example consists of a cover page which describes the program and identifies the levels of evaluation on which the quality enhancement questions are based. Each level or combination of levels is then described in a separate section.

The title for each part identifies the evaluation level; the specific quality enhancement questions are listed in a box following the title. The evaluation is then detailed in the format outlined below.

a. Who was asking the question(s) and why did they want this information?

This section contains the rationale for asking the questions and describes the people who raised the questions, and generally how the information will be used.

b. What resources were needed to collect and interpret the information?

This section includes a description of the materials, equipment, time, and human resources required to collect, analyze and interpret the information to address the identified questions.

c. How were the data collected?

This section describes the data collection, including descriptions of questionnaires and other data collection methods.

### d.	*How were the data analyzed?*

This section includes a description of the organization and coding of the data, the method used to analyze the data (e.g., by hand, computer), and the kinds of statistics that were used (e.g., statistics such as averages, frequencies) to summarize the results.

### e.	*What did they find out?*

This section includes a summary of the results of the data analyses, including various methods of data presentation (e.g., tables, graphs).

### f.	*How were the results used?*

This section provides some possible interpretations of the results and describes changes that were made to the program as a result of the findings.

### g.	*Methodological, measurement and ethical issues.*

The discussion of these issues is located in a box at the end of each example. Examples were developed to highlight most of the methodological, measurement and ethical issues likely to occur in doing evaluation. The comprehensive index in Section III can be used to go directly to the discussion of specific issues.

Logic Model Format

Often programs have several components or activities. For example, as shown in Example A, Drug Awareness Week (DAW) is likely to have several different components. The long-term outcome or goal is to prevent and reduce drug and alcohol abuse. In order to find out if this goal was achieved it would be necessary to collect both pre and post DAW drug and alcohol consumption data and probably some follow-up data as well. This data collection and analysis would be time-consuming and expensive. At the end of the evaluation it still might not be known which particular components were effective and which were not.

However, it is possible to conduct shorter-term evaluations of each component of the program. To use this approach, it is often helpful to draw a logic model of the program. A logic model is a diagram or flow chart that shows the linkages between what a program does and what it is expected to achieve. Each component can then be followed through its logical stages of implementation and outcome. Because each component can be viewed separately, it can be evaluated separately. Using a logic model, a program can be broken down into its components or activities to illustrate how each activity leads to the overall goal. The following is the format of a basic program logic model.

MAIN COMPONENTS
(i.e., Activities/Resources)

IMPLEMENTATION
OBJECTIVES
(e.g., to provide, to give)

OUTPUTS
(e.g., countable indicators of service
delivery and characteristics of those
served)
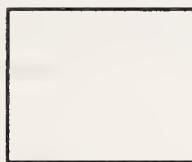
SHORT-TERM OUTCOME
OBJECTIVES
(e.g., to increase, to decrease,
to maximize, to prevent)

OUTCOME INDICATORS
(examples of measurable indicators that
might be used to demonstrate that
outcome objectives have been achieved)
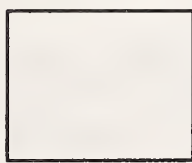
LONG-TERM OUTCOME
OBJECTIVES
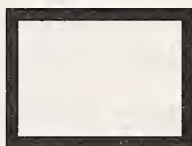
LONG-TERM OUTCOME
INDICATORS
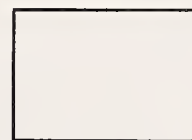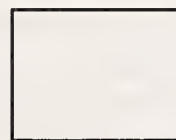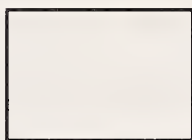
The elements of the model are:

MAIN COMPONENTS OR ACTIVITIES: To identify a program's main components, the evaluator asks "What are the main things the program does to attain its goals?" For example, a component of Drug Awareness Week might be 'Campaign Kit for Senior Elementary Schools.'

IMPLEMENTATION OBJECTIVES: These objectives state what the program seeks to deliver or produce and the targets of its various products and services.   At least one implementation objective should be developed for each component. Implementation objectives

should include a strong verb and a description of what will be done. For example, an implementation objective for the 'Campaign Kit' component might be 'To inform school staff about resources.'

OUTPUTS: These are the countable indicators of service delivery and the characteristics of those served. For the 'Campaign Kit' component, the outputs would be the number of kits distributed and the number of schools that received kits.

SHORT-TERM OUTCOME OBJECTIVES: These short-term or intermediate objectives show how the program's main components are expected to lead to the attainment of goals by the recipient of the program. These goals are expected to be achieved as an immediate consequence of the program's activities. A short-term objective of the 'Campaign Kit' component might be 'To increase staff's use of ARF and other resources.'

OUTCOME INDICATORS: These are the indications of the extent to which the outcome objectives have been achieved. An outcome indicator of the 'Campaign Kit' component might be 'The percent of school staff using ARF.'

LONG-TERM OUTCOME OBJECTIVES: This is often referred to as the program's mission statement or long-term goal. The long-term goal for the DAW program might be 'To reduce or prevent drug abuse.'

LONG-TERM OUTCOME INDICATORS: These are indicators that the overall goal of the program has been achieved. These indicators are sometimes difficult to measure and often difficult to attribute solely to the program (outside of major evaluation research projects). It is worthwhile identifying these indicators, however, to understand what the program really hopes to achieve. For example, an outcome indicator for the overall goal of DAW might be the extent to which alcohol consumption has gone down in the county or the extent to which drug use has been reduced in schools.

The logic model provides a clear and simple overview of the different components of a program and of how each component is expected to contribute to the overall goal of the program. Clearly, such a model is not intended to capture all the complexities of the program with respect to the details of the implementation of each component or the potential interactions of the various components. It is the simplicity of the model that makes it a readily useful tool for approaching quality enhancement and evaluation.

V. SUMMARY OF THE CASE EXAMPLES

A wide range of programs have been chosen to demonstrate the use of evaluation techniques for addressing quality enhancement questions. Each example usually contains questions at several evaluation levels as well as one or two questions using a combination of evaluation levels. The case examples are organized into three categories: health promotion/prevention, early intervention/secondary prevention, and addictions treatment.

Health Promotion/Primary Prevention Examples

- A. Drug Awareness Week
- B. University Health Promotion Program
- C. Parent Education Workshop
- D. Workplace Health Promotion Program
- E. Community-Based Needs Assessment for Health Promotion

Early Intervention/Secondary Prevention Examples

- F. EAP Counselling Program
- G. Community Support Program for Immigrant Women
- H. Prevention Program for High-Risk Youth

Addictions Treatment Examples

- I. Outreach Treatment Program for Older Persons
- J. Detox Needs Assessment and Evaluation
- K. Assessment and Referral Program
- L. Women's Day Program
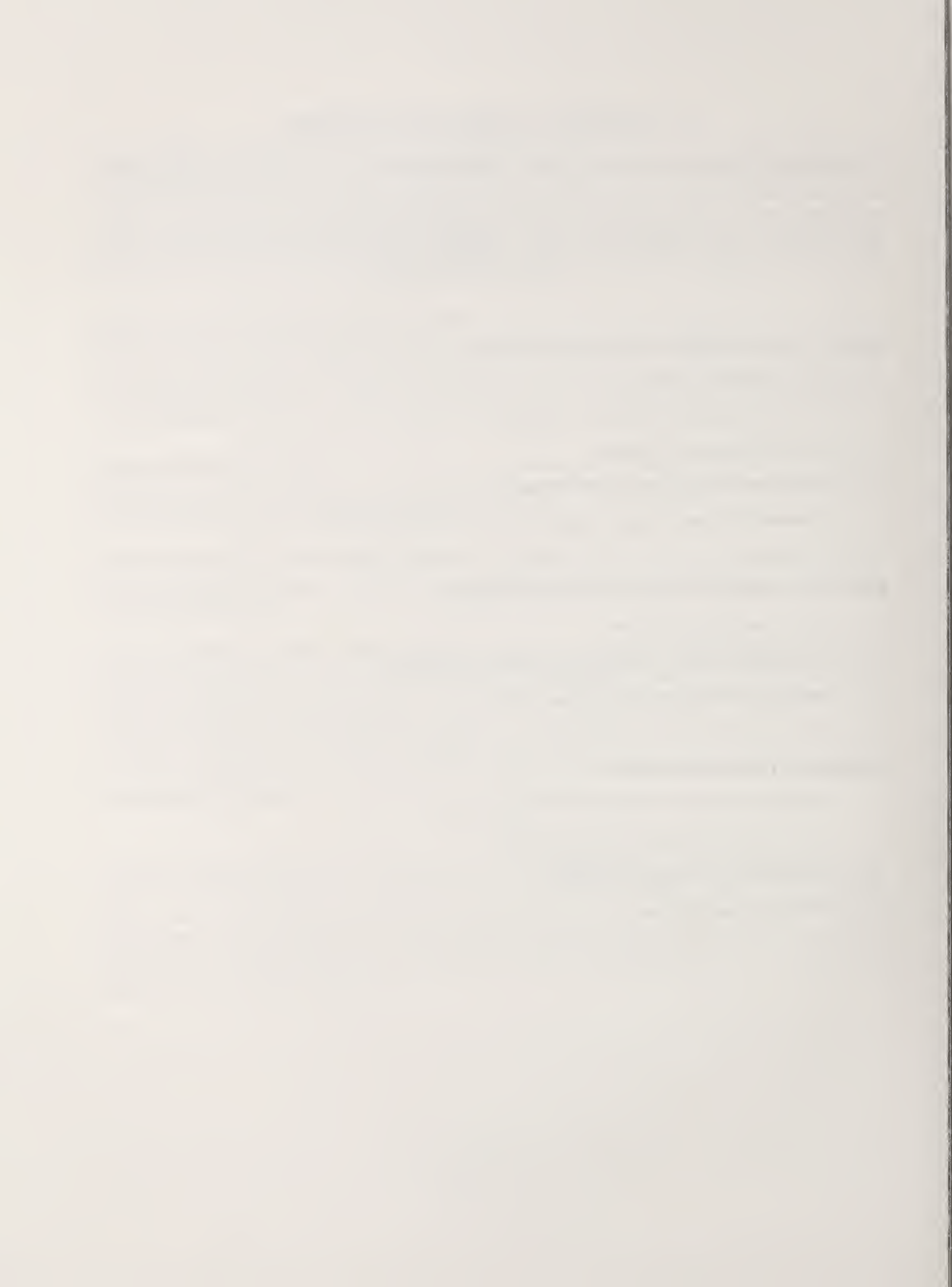
VI. CASE EXAMPLES A to L

A. Drug Awareness Week

Program: Drug Awareness Week (DAW) occurs in November throughout Canada. It is a community health promotion program based on the premise that awareness is the key to prevention. Awareness activities occur at national, provincial, and community levels, and vary from community to community and from year to year. Several different activities, including a drama production for high school students and a media campaign, were part of this community's DAW program during the year of the evaluation.

This example includes quality enhancement questions for four levels of evaluation:

Part 1.   **Logic Model**

Part 2.   **Program Delivery**

Part 3.   **Consumer Survey**

Part 4.   **Outcome Evaluation.**

PART 1. LOGIC MODEL

LOGIC MODEL FOR A DRUG AWARENESS WEEK PROJECT

MAIN COMPONENTS	CAMPAIGN KIT FOR SENIOR ELEMENTARY SCHOOLS	DRAMA PRODUCTION FOR GRADE 9	SUBSTANCE ABUSE AND THE WORKPLACE SEMINAR	MEDIA CAMPAIGN
IMPLEMENTATION OBJECTIVES	To inform school staff about resources	To inform students about substance abuse	To provide a seminar to inform workforce referral agents about Employee Assistance Programs (EAPs)	To inform public about the event
OUTPUTS	# kits distributed	# times play shown # schools seeing play # students seeing play	# of referral agents attending seminar	# of public service announcements aired # articles in the press
SHORT-TERM OUTCOME OBJECTIVES	To increase staff's use of ARF and other resources	To increase students' knowledge about drug abuse	To increase referral rate to EAPs	To increase public's awareness of the event
OUTCOME INDICATORS	% of school staff using ARF resources	% of students who showed an increase in knowledge about drug abuse	% increase in number of referrals to EAP programs	% of public who report being aware of DAW

LONG-TERM OUTCOME OBJECTIVES	To reduce/prevent drug abuse in the county

LONG-TERM OUTCOME INDICATORS	% decrease in per capita alcohol consumption % decrease in drug use reported by high school students % decrease in alcohol and drug-related problems, such as liver cirrhosis and drug-related emergency department admissions

Drug Awareness Week

Part 2. Program Delivery

How many campaign kits were distributed?

How many students saw the play?

How many referral agents attended the EAP seminar?

How many public service announcements were aired or printed?

a.   Who was asking the questions and why did they want this information?

Because a lot of time and effort goes into the planning and implementation of DAW activities, the **chair of the DAW Committee** felt it was important to monitor whether the programs and materials were reaching their intended audiences. Before any outcome evaluation of the program could be done, it was necessary to ensure that the intended audiences received the program.

b.   What resources were needed to collect and interpret the information?

One person on the committee volunteered to be the "data co-ordinator" and spent a total of fifteen hours co-ordinating, tabulating, and analyzing the data collected.

c.   How were the data collected?

The person involved in implementing each activity was responsible for recording the amount of materials distributed, as well as the number of people attending the plays and seminars. All information was given to the data co-ordinator. The data co-ordinator also contacted the media to determine the number of public service announcements aired and monitored the number of articles printed in area newspapers regarding DAW. Forms for describing the data collected for each activity are shown on the following page.

Campaign Kits Distributed

(one form overall for recording distribution to each school)

School: _____   Date distributed: _____

_____   _____

_____   _____

(List all schools provided with kits)

-
-
-

Drama Production for Grade 9

(one form for each school)

Date: _____   School: _____

Number of times play shown: _____

Total number of students at the school who saw the play: _____

Substance Abuse and the Workplace Seminar

(one form for each seminar held)

Date: _____   Location of Seminar: _____

Number of people invited to attend the seminar: _____

Number of people attending the seminar: _____

Media Campaign

(one form overall)

Number of public service announcements aired on TV: _____

Number of public service announcements aired on radio: _____

Number of articles on DAW in daily newspapers: _____

Number of articles on DAW in weekly newspapers: _____

d. *How were the data analyzed?*

Totals for each category were calculated by hand.

e. *What did they find out?*

One campaign kit was distributed to each of the 40 elementary schools in the county.

The drama production for Grade 9 students was shown in all 12 county schools that had Grade 9 classes and approximately 1,050 students saw the play.

Of the 50 referral agents who were invited to two workplace seminars, 21 attended.

Finally, nine public service announcements were aired (five on TV, and four on radio) during the week and six articles appeared in area newspapers (five in the daily newspaper and one in a weekly neighbourhood paper).

f. *How were the results used?*

The information collected helped the DAW Committee to determine that the program was reaching its intended audience in the schools and in the community. There was some concern, however, about the low attendance at the workplace seminar. One person on the DAW Committee has volunteered to contact the 29 referral agents who did not attend the seminar in order to receive feedback about why they did not attend. The results of this survey are presented in Part 3 of this example.

Since most components of DAW week appeared to have been implemented appropriately, a decision was made to try to monitor some outcome indicators during the next DAW as well as continuing to monitor program delivery. Monitoring outcome indicators is described in Part 4 of this example.

Level of difficulty: easy
Level of resources needed: minimal

Part 3. Consumer Survey

What were the main reasons for poor attendance at the workplace seminars?

a.   Who was asking the question and why did they want this information?

The **DAW Committee** was concerned that less than 50% of the referral agents who were invited to attend the workplace seminars actually attended. The committee recognized that there had been little advance notice of the seminars and that the times during which they had been scheduled were not ideal. Therefore, they wanted to determine whether these problems prevented people from attending the seminars. Also, they wanted to identify any additional reasons why people did not attend.

b.   What resources were needed to collect and interpret the information?

One volunteer from the DAW committee spent a total of 15 hours contacting those referral agents who did not attend the seminar by telephone, categorizing the responses, and tabulating the reasons for non-attendance.

c.   How were the data collected?

A volunteer from the DAW committee contacted each of the 29 referral agents who did not attend the seminar and asked the following two questions:

1. Were there barriers which made it difficult to attend the seminars?
2. Do you have any suggestions for making future seminars more accessible?

d.   *How were the data analyzed?*

The volunteer tabulated the responses and then divided them into the following categories of reasons given for not attending the seminar:

1. scheduled seminar times were not convenient
2   not enough advance notice
3. seminar topic of low priority to company
4. other.

e.   *What did they find out?*

The volunteer was able to reach all of the 29 referral agents who did not attend the seminar. Each referral agent responded to the questions asked. The number of referral agents who were in each response category is shown in Table 1. Note that some agents gave more than one response; therefore, the total number of responses is greater than 29. Some examples of comments are also included in the table.

Table 1. Number of Referral Agents Indicating Each Category of Reason for Not Attending the Workplace Seminar (n=29)

Reasons for not attending	Number of agents indicating each reason	Examples of types of comments made
scheduled seminar times were not convenient	20 (69%)	• seminars were too long (2 hrs.) • could try lunch hour seminar • there was a conflict with other commitments • prefer mid-week
not enough advance notice	23 (79%)	• staff usually schedule themselves three weeks in advance • all staff had prior commitments • need at least 1 month's notice
seminar topic not a high priority within agency	7 (24%)	• not enough referrals made to EAP to warrant taking time to attend • another seminar at the same scheduled time was more relevant to me
other	6 (21%)	• forgot • was ill • last minute change in schedule

f.   How were the results used?

Given that a majority of the referral agents indicated that they required more advance notice to have staff available to attend, and given that scheduling of the seminars was an issue, the DAW committee has decided to schedule one noon-hour seminar as well as a longer (two hour) evening seminar next year. They also plan to set a target for distribution of information about the seminars at least four weeks prior to the scheduled seminar dates. With regards to the schedule conflict with the other seminar, the committee felt that although they could not be assured that this would not happen again, the planned changes would increase attendance at the workplace seminars next year.

Level of difficulty: moderate
Level of resources needed: moderate

Part 4. Outcome Evaluation

Did knowledge about drug abuse increase among Grade 9 students who saw the play?

Did the number of referrals to EAP programs increase?

a.   Who was asking the question and why did they want this information?

The DAW Committee was interested in examining outcomes because they wanted to know if their efforts appeared to be making a difference. In particular, the drama production and the workplace seminar were quite labour intensive and the committee wanted to be sure they were worth the effort if they were to be continued next year.

In addition, the Board of Education for the county and the community members of the workplace seminar committee who worked with the DAW Committee planning the interventions were concerned that their time had been well spent.

b.   What resources were needed to collect and interpret the information?

One committee member worked a total of five days collecting and tallying information regarding the effects of the workplace seminar. Two committee members worked five days each scheduling and testing students and analyzing data for the evaluation of the play for Grade 9 students.

c.   How were the data collected?

The play. Because people wanted to know whether students' knowledge had increased as a result of seeing the play, it was decided to test students' knowledge before and after the play. However, to be sure that it was the play that was causing any change that might occur, it was also decided to use a control group, that is, to test some Grade 9 students who did not see the

play. In order to do this it was necessary to make arrangements with some schools in an adjacent county where a school drug and alcohol education program was not part of DAW. One week prior to the week of the performance committee volunteers gave a knowledge test to students from five classes who were to see the play and students from five classes in the control county. Two weeks after the students saw the play both groups of students were retested. The knowledge questionnaire used is reproduced at the end of this example. A 10 digit code comprised of the respondent's date of birth (mm/dd/yy) and the last four digits of their telephone number was used to match before and after responses.

The workplace seminar. Six months after the EAP seminar, a DAW Committee member telephoned all the workplace referral agents who had been invited to attend the seminar. Each agent was asked to examine his or her records and assess how many referrals had been made to EAP programs in the months prior to DAW and how many had been made in the six months following DAW.

d.   How were the data analyzed?

The play. The test data was entered into the computer and was analyzed using EPI INFO. Before and after knowledge scores were compared for the group who saw the play and the group that did not. The change in scores were computed and the average change was compared for the students who saw the play and those who did not.

The workplace seminar. The average number of referrals to EAP by each referral agent was calculated by hand for the six months prior to and following DAW for those who attended the seminar and for those who did not. The amount of change in the number of referrals was computed and compared for those who attended the seminar and those who did not.

Line graphs comparing the before and after results for each of the two components were prepared using Lotus 1-2-3 (see Appendix B).

e.   What did they find out?

The play. As shown in Table 1, students who saw the play and those who did not scored about the same on the knowledge test before the play was shown. Those students who saw the play increased their knowledge scores substantially, while those who did not see the play increased their knowledge only slightly. There was a significant difference in the change in knowledge scores between the two groups. Figure 1 shows these results in a line graph which was generated using LOTUS 1-2-3.

Table 1. Average Scores on the Knowledge Test Before and After the Play (Students Who Saw the Play Compared With Those Who Did Not)

	Experimental n=160	Control n=164
Average scores on knowledge test (out of 10):		
before (F=1.8, df=322, n.s.)	4.1	4.4
after (F=174.7, df=322, p<.001)	8.8	6.2
change (F=177.9, df=322, p<.001)	4.7	1.8

Figure 1. Average Scores on the Knowledge Test Before and After the Play was Shown (Students Who Saw the Play Compared With Those Who Did Not)

Saw the play   Did not see the play
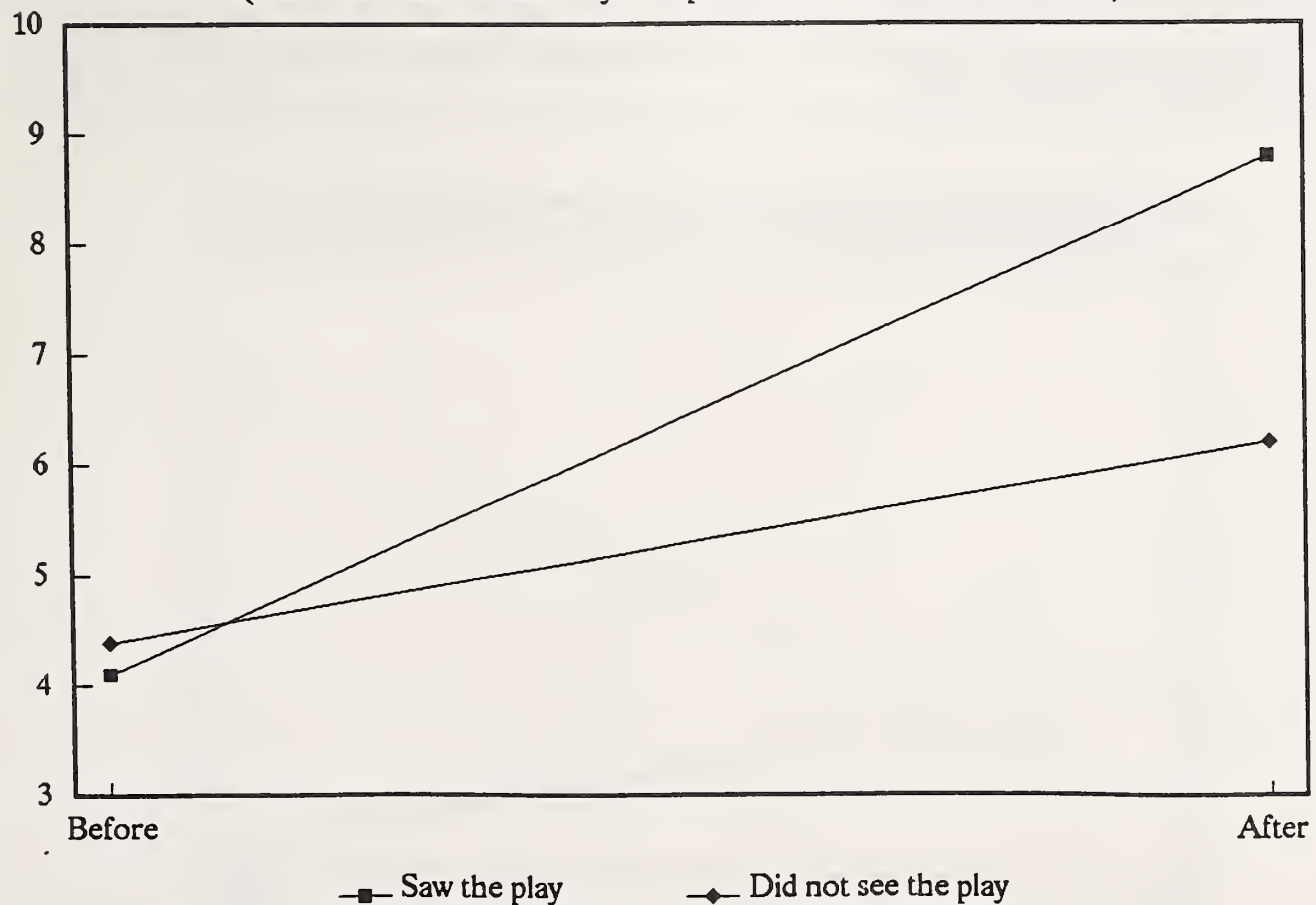
The workplace seminar: As shown in Table 2, prior to the workplace seminar, agents who attended the seminar did not differ significantly from those who did not attend on the number of referrals to EAPs. After the seminar, the rate of referrals by those who did not attend decreased slightly, while the rate of referrals more than doubled for those who attended the seminar (see Table 2). There was a significant difference in the change in the number of referrals between the two groups. Figure 2 further illustrates these results using a line graph.

Table 2. **Average Number of Referrals Made to EAP's Before and After the Workplace Seminar (Referral Agents Who Attended the Seminar Compared With Those Who Did Not)**

	Attended n=21	Did Not Attend n=29
Average number of referrals to EAP:		
during six months before seminar (F=1.8, df=49, n.s.)	1.2	1.6
during six months after seminar (F=23,8, df=49, p<.001)	2.6	1.1
change in number of referrals (F=30.3, df=49, p<.001	+1.4	-0.6

Figure 2. Average Number of Referrals Made to EAP's Before and After the Workplace Seminar (Referral Agents Who Attended the Seminar Compared With Those Who Did Not)

—■— Attended the seminar —♦— Did not attend seminar

Drug Awareness Week
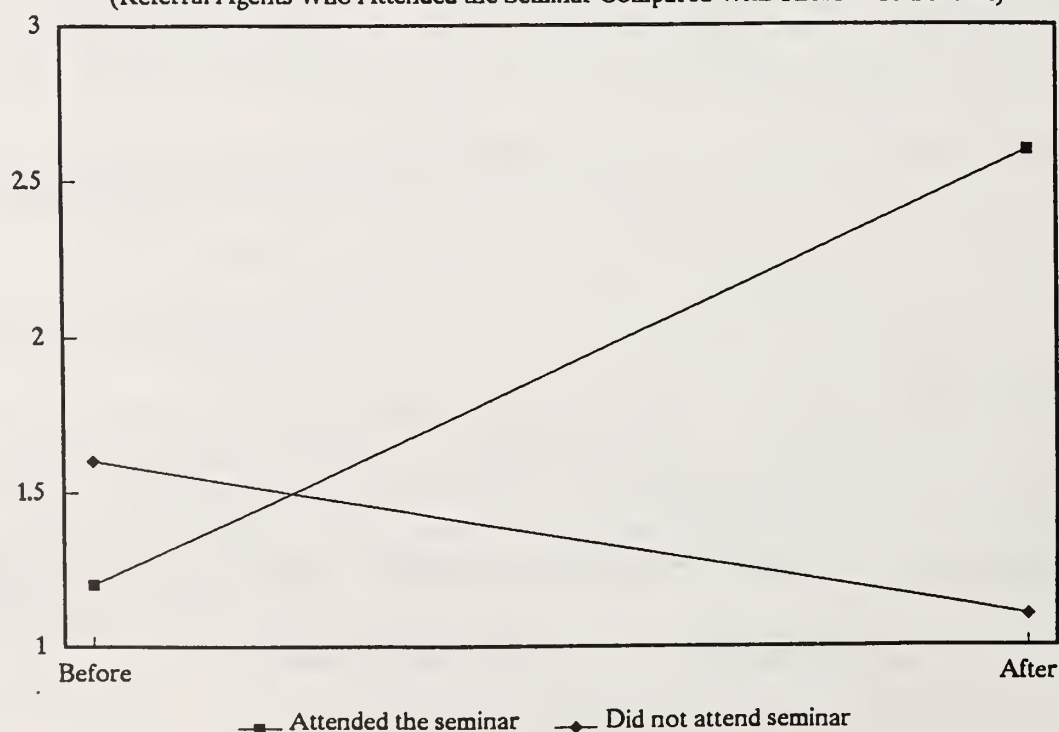
f.   How were the results used?

The positive results from the play performance and the workplace seminar indicated that these are useful components to continue as part of DAW.

Methodological, measurement and ethical issues:

Methodological. It is important to make sure that students in the classes who did not see the play were not given 'catch up' lessons by their teachers because the teachers felt their students were missing out. If those students were taught lessons containing similar information to that in the play, students who saw the play would not be expected to score any higher than students who did not see it.

Referral agents who attended the seminar may have been more interested in increasing their referrals to EAP than those who did not attend. Therefore, the increase in referrals for those attending the seminar may be partly a reflection of self-selection rather than entirely due to the seminar itself.

Measurement. When knowledge is being evaluated, it is important that the testing instrument focus on questions that reflect information that was provided as part of the intervention: in this case, the play.

Grade 9 Knowledge Test

The following statements are either *True* or *False*. CIRCLE the alternative which you believe to be correct. If you don't know the answer, do not circle either of the alternatives.

1. A regular bottle of beer has as much alcohol in it as one shot (1½ oz. or 43 mL) of whisky.   T F

2. Cola drinks do not contain caffeine.   T F

3. Two or three marijuana cigarettes a day may carry the same risk of lung damage as a pack of tobacco cigarettes.   T F

4. Alcohol can help cure a cold.   T F

5. You cannot be an alcoholic if you only drink beer.   T F

6. There is no possibility of physical or psychological addiction to marijuana.   T F

7. Long-term cocaine use can cause nose bleeds.   T F

8. Alcohol leaves the body for the average adult male at the rate of one drink per hour.   T F

9. Each tobacco cigarette smoked shortens your life by about 10 minutes.   T F

10. Drinking coffee can sober you up.   T F
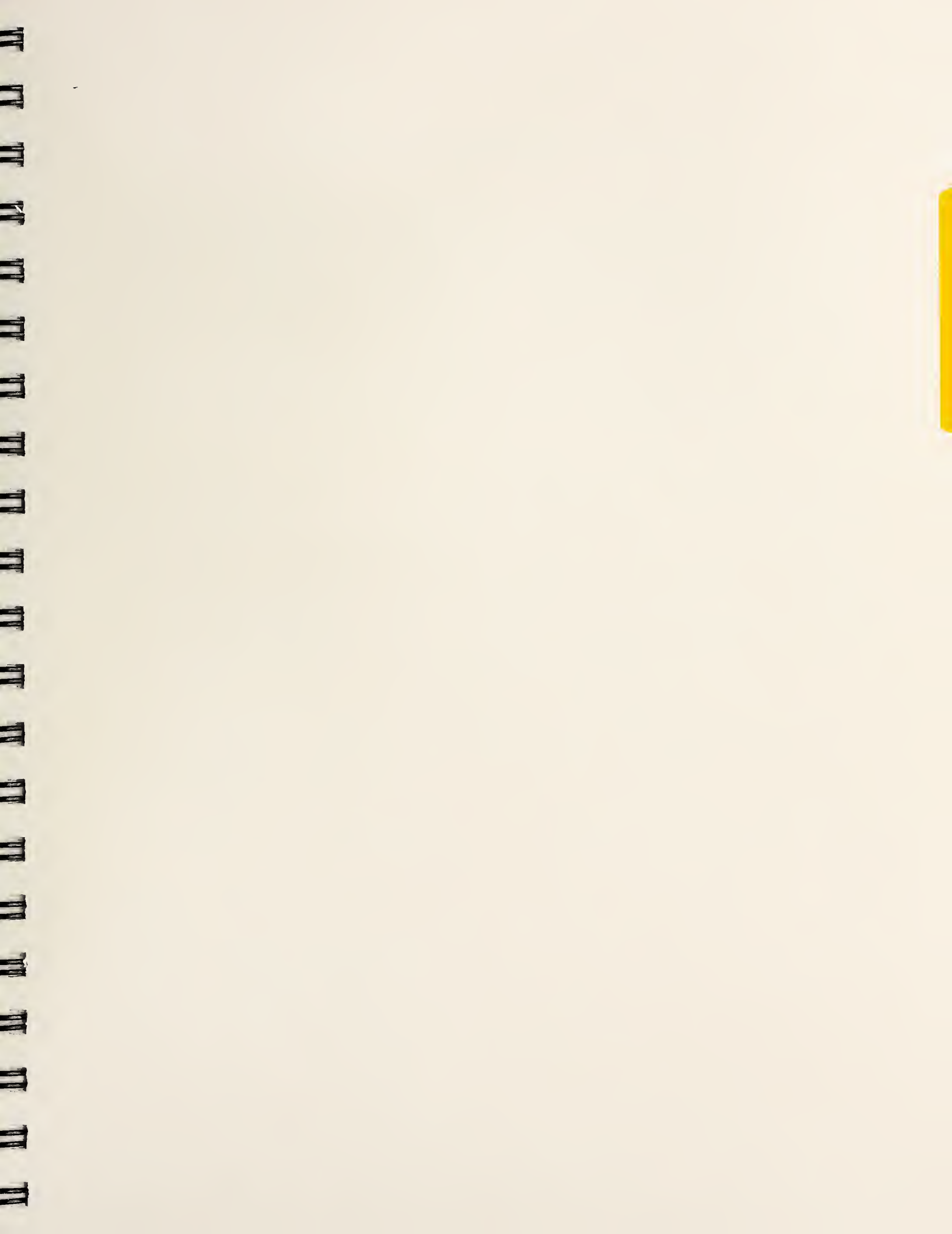
B. University Health Promotion Program

Program: In collaboration with researchers and community representatives, University A developed a health promotion program intended primarily for first year students. The program stressed health promotion and responsible behaviour toward alcohol use. First year students were chosen to be the primary target for several reasons. First, these students are entering an environment with which they are unfamiliar, and, for many students, this will be their first experience living away from home. Second, most students reach the legal drinking age while at university and are then able to purchase and drink alcohol legally. Third, there is a certain mystique and stereotype about university students and alcohol use which students, upon entering the system, seem determined to perpetuate. Fourth, the patterns and behaviours which students adopt in their first year of university may set the trend for their future experiences.

The program was made up of two independent, yet related components – an educational/persuasion component and a policy component – both of which stressed the health promotion perspective. The basic message of the education/persuasion campaign stressed the ideas of "personal moderation" and the personal responsibility which students must take for their own behaviour. The messages were promoted by the use of a number of channels including a core pamphlet sent to all incoming first year students, theme flyers, awareness posters, advertisements in the student newspaper, presentations to students in residence, and messages in licensed outlets on campus. Four alcohol-related and potentially damaging behaviours were emphasized: the health effects of alcohol consumption; drinking and driving; drinking to drunkenness; and drinking before undertaking academic activities.

The policy component required the development and implementation of policies which were to govern and regulate the sale and use of alcohol on campus for all sectors of the university. Both components were implemented prior to the beginning of classes in September and were in effect throughout the academic year.

This example includes quality enhancement questions for three levels of evaluation:

Part 1.　　Logic Model

Part 2.　　Program Delivery

Part 3.　　Outcome Evaluation.

Part 1. Logic Model

Logic Model for University Health Promotion Program

MAIN COMPONENTS	PAMPHLETS MAILED TO FIRST YEAR STUDENTS		MEDIA CAMPAIGN	ALCOHOL MANAGEMENT POLICY ON CAMPUS
	↓		↓	↓
IMPLEMENTATION OBJECTIVES	To inform incoming students about low-risk drinking behaviour		To inform student body about low-risk drinking behaviour and reinforce messages in booklets	To implement a series of policies in campus bars including differential pricing of beer based on alcohol content, non-alcoholic alternatives at reasonable prices, etc.
	↓		↓	↓
OUTPUTS	# students receiving pamphlets # students aware of message		# students aware of campaign # students aware of message	# policy options adopted # students aware of policy options
		↘	↙	↓
SHORT-TERM OUTCOME OBJECTIVES		To increase knowledge about and attitudes in favour of low-risk drinking practices		To increase approval and adoption of low risk drinking practices
		↓		↓
OUTCOME INDICATORS		# students who increased knowledge about and attitudes in favour of low-risk drinking practices		# students who approved and adopted low risk drinking practices
		↓	↙	
LONG-TERM OUTCOME OBJECTIVES		Maintenance of responsible drinking behaviour		
		↓		
LONG-TERM OUTCOME INDICATORS		% increase in rate of students at the university who drank responsibly		

Part 2. Program Delivery

> *Did first year students receive the mailed pamphlets and were they aware of the message in the pamphlet?*
>
> *Were students aware of the media campaign and aware of its messages?*
>
> *How many alcohol management policies were implemented, and to what extent were students aware of these policies?*

a.   Who was asking the questions and why did they want this information?

The **team of university, community and research representatives** were aware that in order for the program to have any impact, students needed to receive the program information and be aware of its content. Therefore, a survey of first year students was conducted following the intervention to determine whether the students who received the intervention were aware of the program and its various components. Also, the types of policies implemented by the university community were monitored.

b.   What resources were needed to collect and interpret the information?

Human resources were required to package and send the surveys to students randomly selected by the universities, to monitor the media campaign, and to enter the data. Printing and paper costs were also incurred for the survey. Additional resources were required for postage to mail the questionnaires to students and for return postage for questionnaires returned by students. This component of the evaluation required two people working five full days to package and send out the questionnaires. Monitoring was done by the research assistant at periodic intervals and data entry was contracted out at an approximate total cost of $1,000. The research assistant required several months to check the data for inconsistencies and other errors and to analyze the findings. The data analyses required a computer and statistical software.

c.   How were the data collected?

Seven months after the beginning of the school year, questionnaires were sent to 1,500 first year students who had been randomly selected from all first year students at the university. A self-addressed stamped envelope was enclosed for return of the completed questionnaires. The questionnaires were to be completed anonymously, asking for sex, date of birth and the last four digits of their parents' telephone number as the only identifiers.

On the questionnaire, students were asked a series of questions about their awareness and understanding of the various components of the program during the past school year (see the questionnaire provided at the end of this part of the example).

d.   How were the data analyzed?

All information on the returned surveys was coded and entered for analysis by computer using SPSS (Statistical Package for Social Sciences) software. For these analyses, coding the questionnaires involved assigning numerical values for all questionnaire items that were to be tabulated. For example, for questions 1(a), 1(b), and 2(a), "yes" was coded "1" and "no" was coded "2". For question 2(b), "reading before arriving on campus" was coded "1", "reading after arriving" was coded "2", and "not reading" was coded "3". The ratings for each of the three scales in question 2(c) were scored 1 to 5 and averaged.

Graphs were prepared using Harvard Graphics (see Appendix C) to illustrate the results.

e.   What did they find out?

The pamphlet. Approximately 40% of first year students responded to the mailing. Seventy-seven percent of respondents reported that they had received the core pamphlet at home, and of these, 62% said that they read the pamphlet before arriving on campus and another 10% read it after arriving on campus. Figure 1 illustrates these results in a pie graph generated using Harvard Graphics. Respondents who read the booklet generally found it interesting, informative and useful. The average ratings (out of 3) are shown in a bar graph in Figure 2. Almost 84% of the respondents were aware of the program's motto, and of these, 90% reported that the motto was meaningful to them.

The media campaign. The media campaign covered four main topics. Eighty-one percent of respondents reported seeing or hearing educational messages for at least one topic. The most frequently remembered topic was drinking and driving (78%), followed by drinking and learning (65%), drinking to drunkenness (59%), and drinking and physical health (43%) (see Figure 3).

Alcohol management policy. Eleven policies supporting lower risk drinking practices were implemented on the university campus (e.g., encouraging lighter beer or non-alcohol alternatives in campus bars).

Of survey respondents who reported that they had attended campus bars and/or special pub nights, 37% had noticed the "Drink Light" table signs, 57% were aware that light beer was cheaper and 89% said they approved of lower pricing for lower alcohol beer. However, only 20% of those who attended campus bars and/or pub nights reported that the lower price for low alcohol beer influenced them to purchase low alcohol beer. These were the only policies implemented that were visible to patrons, and were the only ones included in the survey (see Figure 4).

Figure 1. Percent of Students Who Read the Pamphlet Before Arriving on Campus, After Arriving on Campus, or Not at All

Read before arriving
62%

Read after arriving
10%

Did not read
29%
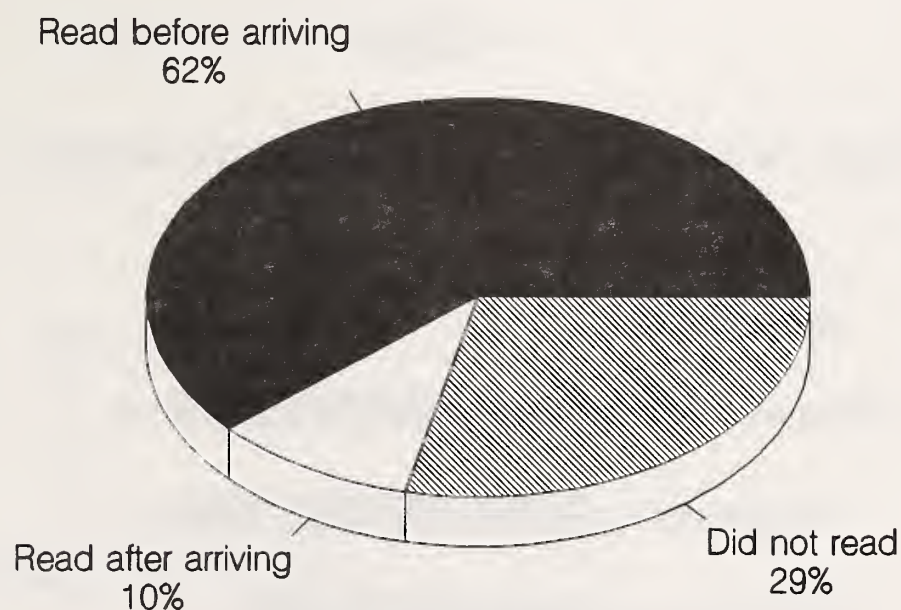
Figure 2. Average Ratings of Pamphlets on Level of Interest, Informativeness, and Usefulness

Average Rating (out of 5)

Scale 0 1 2 3 4 5

Level of interest ▮▮▮ 3.3

Informativeness ▮▮▮ 3.7

Usefulness ▮▮▮ 3.6
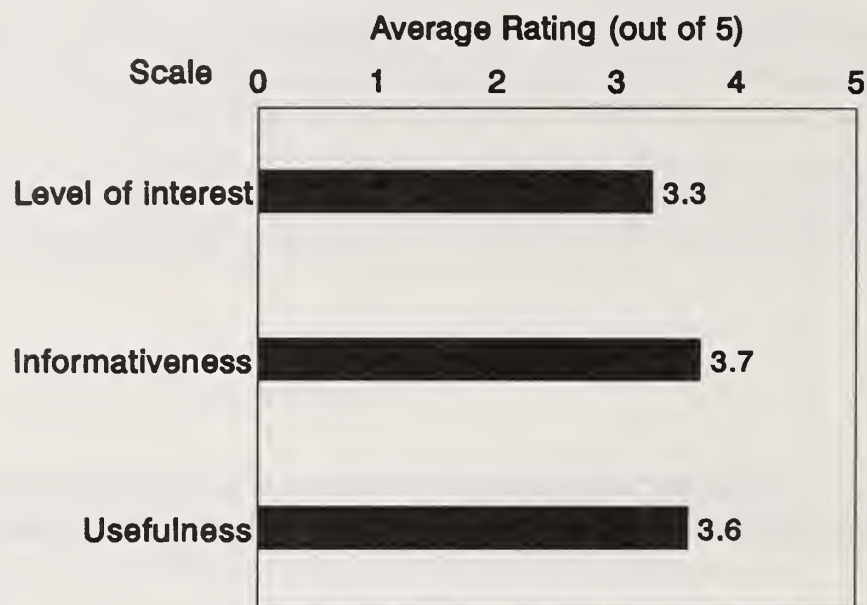
Figure 3. Percent of Respondents Aware of Media Campaign Messages

Awareness of: 0% 20% 40% 60% 80% 100%

At least one message ▮▮▮ 81%

Drinking/Driving ▮▮▮ 78%

Drinking/Learning ▮▮▮ 65%

Drinking/Drunkeness ▮▮▮ 59%

Drinking/Phys. health ▮▮▮ 43%
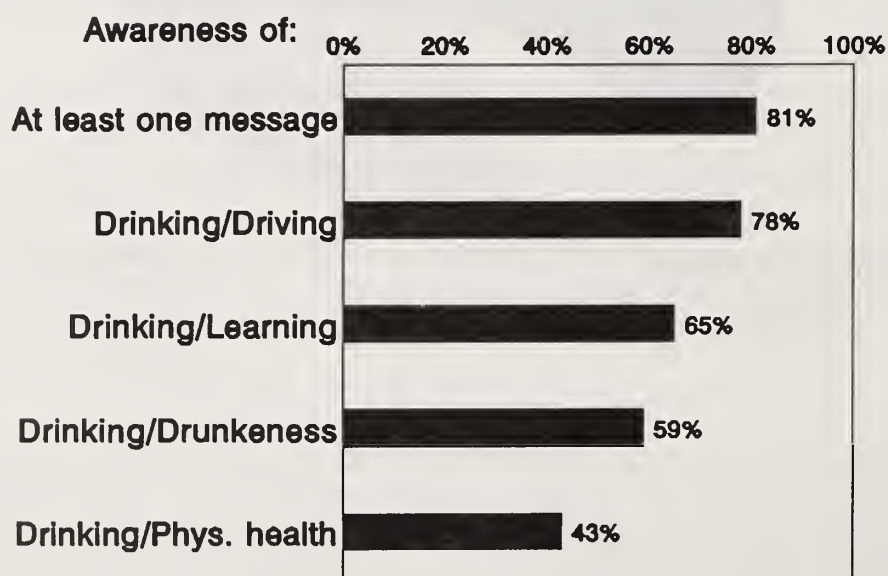
Figure 4. Percent of Students Reporting Awareness and Approval
of Policies Implemented by Bars

% of students

Policies Implemented

| | 0% | 20% | 40% | 60% | 80% | 100% |

Aware/drink light sign — 37%

Aware/diff. pricing — 57%

Approve/diff. pricing — 89%

Bought low alc. beer — 20%
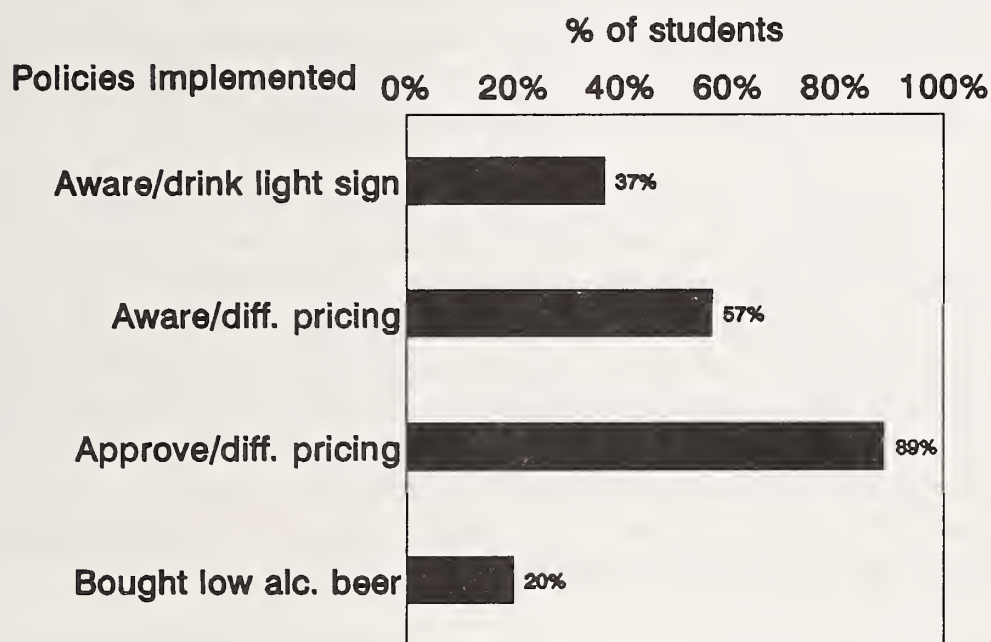
f. *How were the results used?*

The results indicated that the program was successful in reaching the target audience of first year students. It also appeared that the majority of those who responded to the survey remembered the content of the pamphlets and the media messages. In addition, reaction to the messages and the policies implemented in the campus bars, such as differential pricing based on alcohol content, were positively received by respondents.

This information was used to promote discussion about implementing the program on a regular basis within the university setting.

Methodological, measurement, and ethical issues:

Methodological. The questionnaire used in this part of the study was actually part of a larger follow-up questionnaire administered as part of the outcome evaluation.

Another methodological issue is the possible impact of the 40% response rate. It is possible that those who responded were more likely to remember receiving the pamphlets and more likely to respond positively to responsible drinking policies. This potential bias needed to be taken into consideration in interpreting the results.

Measurement. While it was relatively easy to monitor the educational aspects of the intervention (i.e., whether the students read the pamphlets), it was more difficult to monitor the implementation of alcohol management policies. It was possible to determine whether the alcohol advisory committee sanctioned a particular policy, but it was generally difficult to ascertain whether the bar managers and serving personnel implemented the policy as required. In fact, it became apparent during the evaluation that a number of the policies which had been adopted were viewed as unworkable, or were unpopular with managers, and violations of these policies were routinely ignored. For example, ensuring that food was readily available on all occasions when alcohol was sold was deemed appropriate but difficult to enforce in certain types of settings.

Ethical. Because the implementation of approved university policies was monitored, the potential for finding bar staff not following through on these policies was discussed. Would these violations be reported to the administration? It was decided that enforcing policies was the responsibility of the university and that it would be inappropriate for the program evaluators to report specific deviations from the policies.

UNIVERSITY SURVEY

What is your birthdate? _____
                        Day   Month   Year

What are the last 4 digits of your
home (parents') phone number? _____

Please indicate whether you are male or female: Male____   Female____

(c) If you did read the booklet, please check (√) the space on the scale
    that best reflects your response to the booklet:

    1. interesting   __:__:__:__:__:__:__   uninteresting
    2. informative   __:__:__:__:__:__:__   uninformative
    3. useful   __:__:__:__:__:__:__   not useful

1.(a) Are you aware of the term "AppropriActivity" as part of an alcohol
      awareness campaign?

      YES____   NO____

(b) If YES, was the term meaningful to you?

      YES____   NO____

2.(a) The booklet, "AppropriActivity: An Undergraduate's Guide to
      Conviviality" was mailed to your home last summer. Do you
      remember receiving it?

      YES____   NO____

(b) Please check one of the following:

      I read the booklet before arriving on campus   ____
      I read the booklet after arriving on campus   ____
      I have not read the booklet   ____

3.(a) During the past academic year, do you remember seeing or hearing
      educational messages on campus that dealt with **drinking and
      physical health?**

      YES____   NO____

(b) During the past academic year, do you remember seeing or hearing
    educational messages on campus that dealt with **drinking and
    driving?**

      YES____   NO____

(c) During the past academic year, do you remember seeing or hearing
    educational messages on campus that dealt with **drinking to
    drunkenness?**

      YES____   NO____

(d) During the past academic year, do you remember seeing or hearing
    educational messages on campus that dealt with **drinking and
    learning?**

      YES____   NO____

4.(a) Have you been in any campus bars or attended any special event pub nights on campus since September?

YES____   NO____

4.(b) If YES, did you notice "Drink Light" table messages in the campus bar?

YES____   NO____

(c) Were you aware that light bottled beer costs less than regular bottled beer at campus taverns and pub?

YES____   NO____

(d) Do you think that lower prices for low alcohol beer is a good idea?

YES____   NO____

(e) Did lower prices for low alcohol beer influence you to order light beer when you drank beer?

YES____   NO____

THANK YOU for taking the time to respond to this questionnaire.

PLEASE return it in the pre-addressed postage-paid envelope provided.

Level of difficulty: difficult
Level of resources needed: heavy

Part 3. Outcome Evaluation

Did students exposed to the program drink less than students who were not exposed to the program?

Did attitudes in favour of low-risk drinking practices improve among students?

Did knowledge about alcohol use improve among students?

a.   Who was asking the questions and why did they want this information?

The **university and other collaborators** on the project wanted to determine the effectiveness of the program. If the program could be shown to be effective in actually improving drinking attitudes and behaviours, it would be worthwhile to continue it. In addition, this would provide a model program for other universities to adopt. To address the effectiveness of the program, questionnaires were sent to students at University B where the program had not been implemented (i.e., "control" university), as well as to students at University A where the program had been implemented (i.e., "experimental" university).

b.   What resources were needed to collect and interpret the information?

The study involved sending two sets of questionnaires to 3,000 students. In addition to the costs of the questionnaires, human resources were needed to process the returned questionnaires and to enter and analyze the data. Access to a computer and a statistical software package was required. Because the dataset was large, data management and analysis were quite time-consuming. For example, several weeks were needed to clean the data set (e.g., correct data entry errors) and prepare the data for analyses (e.g., compute variables from questionnaire items). Overall, the budget for the evaluation component of the project was about $30,000 and required a half-time research assistant and about 20% of a researcher's time over a one-year period.

c. *How were the data collected?*

A set of questionnaires was mailed at the end of August (before students arrived on campus) to 3,000 first year students who had been randomly selected from the two universities. The questionnaire asked a number of questions about knowledge about alcohol and drinking practices and attitudes. The questionnaires were completed anonymously with sex, date of birth and the last four digits of their parents' telephone number as the only identifiers.

Eight months later, after the program had been implemented at University A, a second questionnaire was mailed to the same 3,000 students. The follow-up questionnaire was the same as the initial questionnaire with slight changes to reflect time on campus. The questionnaires mailed to students at the experimental university, where the program had been implemented, had an additional section asking questions about students' awareness and understanding of the program (see the questionnaire at the end of this part of the example).

d. *How were the data analyzed?*

Prior to data entry, the questionnaires had to be coded. Scores reflecting the following were required:

1. Alcohol consumption
2. Attitudes about low-risk drinking practices
3. Knowledge about alcohol use.

Alcohol consumption. Alcohol consumption during the week prior to testing was calculated from the retrospective drinking diary.

Attitudes about low-risk drinking practices. Attitudes about four alcohol-related and potentially damaging behaviours were examined, with attitudes about drinking and driving separated into personal behaviour and others' behaviour:

1. Drunkenness (12 items - max. score = 60)
2. Drinking and driving
   (a) self (4 items - max. score = 20)
   (b) others (5 items - max. score = 25)
3. Drinking and academics (6 items - max. score = 30)
4. Abstinence (8 items - max. score = 56).

Questions 1 through 27 were used to examine the first four attitudes. Each question was scored as follows:

> 1 represented the most positive attitude towards alcohol and drinking (i.e., in favour of alcohol use); 5 represented the most negative attitude towards alcohol and drinking (i.e., against alcohol use).

Question 28 examined students' attitudes towards abstinence, and was scored such that the highest score (i.e., 7) reflected the most positive attitude towards abstinence for each scale, and the lowest score (i.e., 1) reflected the most negative attitude towards abstinence.

Knowledge about alcohol use. Question 29 examined the students' knowledge about alcohol use. The total number of correct answers was tabulated (max. score = 13).

Once the responses were coded, the data were entered for analysis using SPSS (Statistical Package for Social Sciences), and the responses were matched by a respondent code consisting of the student's sex, date of birth, and the last four digits of their parents' telephone number. Time 1 (before the program) data were linked with data from time 2 (after the program) for each respondent. The primary analysis for the outcome evaluation was a repeated-measures analysis of variance (ANOVA) that compared changes in knowledge about alcohol drinking practices and changes in the attitudes of students who were exposed to the program (i.e., experimental university) from time 1 to time 2 relative to changes in the students who were not exposed to the program (i.e., the control university) from time 1 to time 2.

Graphs comparing results from time 1 to time 2 for each measure were prepared using Harvard Graphics (see Appendix C).

e.   *What did they find out?*

Table 1 contains a summary of the seven time 1 and time 2 scores for experimental and control universities. These results are also graphed in Figures 1-7.

As can be seen in Figure 1, although experimental students drank more than those at the control university initially, this trend was reversed at time 2. The control students showed a large increase in consumption (a finding consistent with the literature), while the experimental students showed a slight decrease.

From Figure 2 it is apparent that first year students' attitudes toward drunkenness generally became slightly more positive during their first year. There was no significant difference between the two universities on this variable.

In Figure 3 it can be seen that while incoming students at both universities had similar attitudes about their own drinking and driving, over the course of the academic term their attitudes diverged. The experimental students became more negative and the experimental students became slightly more positive. Attitudes towards drinking and driving by others became more negative for the experimental school while they did not change at the control university (see Figure 4).

Regarding drinking and academics, students at the control university showed a more positive attitude toward drinking and academics over time while the shift in the experimental school was toward less accepting attitudes.

As shown in Figure 6, respondents at the experimental university became more positive regarding abstinence while the control site stayed about the same. The acceptance of abstinence as an alternative was consistent with the booklet and media campaign.

Finally, Figure 7 shows that while knowledge increased at both universities, the increase at the experimental school was greater. The difference, however, was not statistically significant.

Table 1. Changes in Alcohol Consumption, Attitudes, and Knowledge About Alcohol Use From Time 1 to Time 2 for the Experimental and Control Universities

	Experimental University		Control University	
	Time 1	Time 2	Time 1	Time 2
Weekly alcohol consumption (F=7.3, p<.01)	8.1	7.7	6.2	9.2
Attitudes towards: drunkenness (F=2.7, p<.10)	40.0	39.7	41.5	39.0
drinking and driving - self (F=8.5,p<.01)	15.0	15.8	15.2	14.8
drinking and driving - others (F=5.9, p<.05)	20.2	21.4	20.5	20.8
drinking and academics (F=7.6, p<.01)	20.6	21.2	21.0	20.4
abstinence (F=16.3, p<.001)	41.0	45.0	44.5	42.5
Knowledge about alcohol and drinking (F=2.8, p<.10)	6.6	7.2	6.2	6.3

Figure 1. Change in First Year Students' Weekly Alcohol Consumption From Time 1 to Time 2 (Experimental University Compared with Control University)

Average number of drinks per week
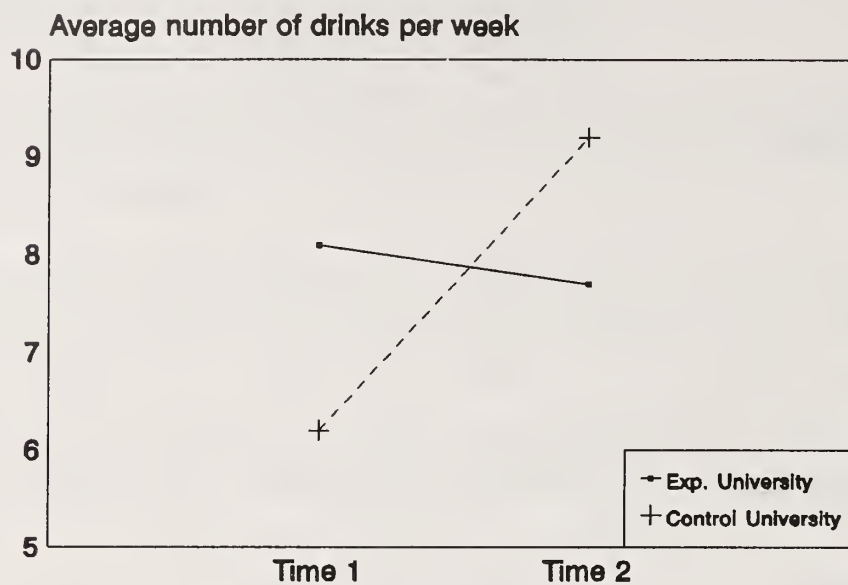
Figure 2. Change in First Year Students' Attitudes Towards Drunkenness From Time 1 to Time 2 (Experimental University Compared with Control University)

Average attitude score (max=60)
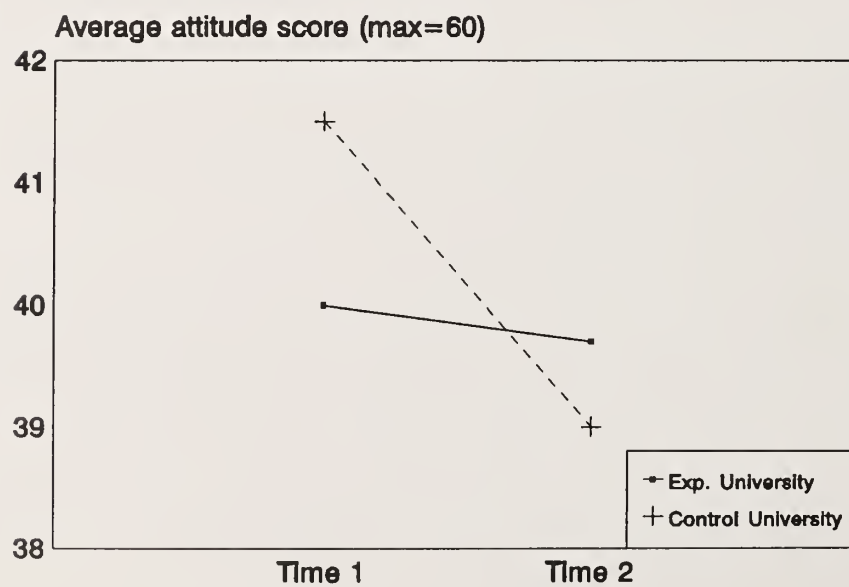
Figure 3. Change in First Year Students' Attitudes Towards
Drinking and Driving by Themselves From Time 1 to Time 2
(Experimental University Compared with Control University)

Average attitude score (max=20)
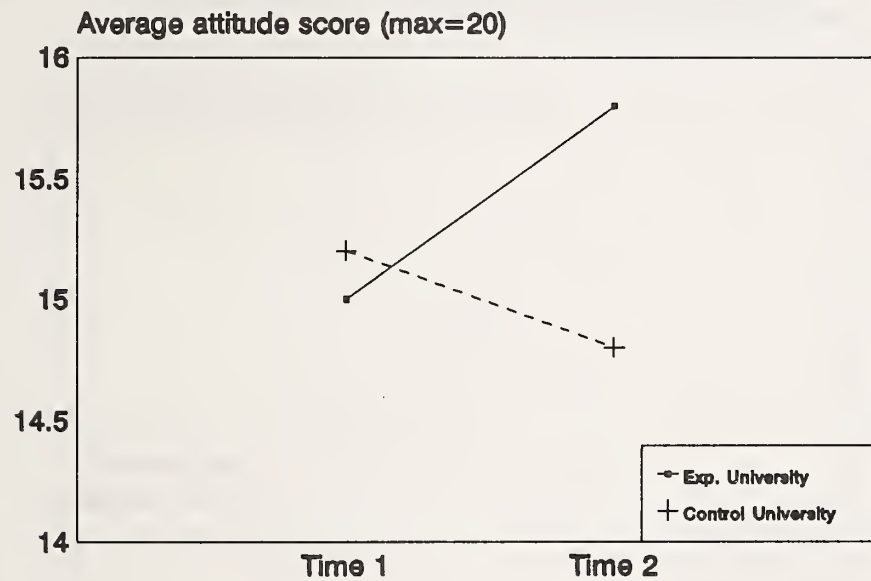
Figure 4. Change in First Year Students' Attitudes Towards
Drinking and Driving by Others from Time 1 to Time 2
(Experimental University Compared with Control University)

Average attitude score (max=25)
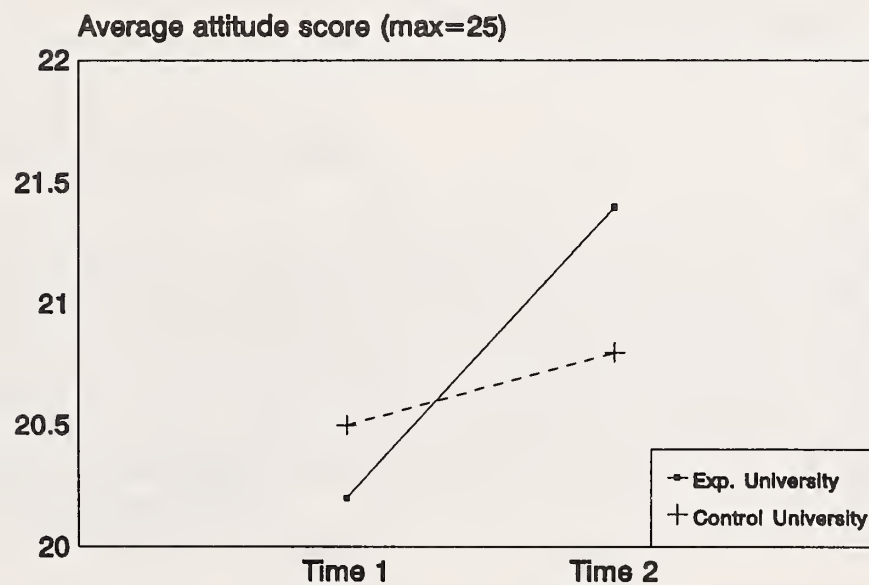
Figure 5. Change in First Year Students' Attitudes
Towards Drinking and Academics From Time 1 to Time 2
(Experimental University Compared with Control University)

Average attitude score (max=30)
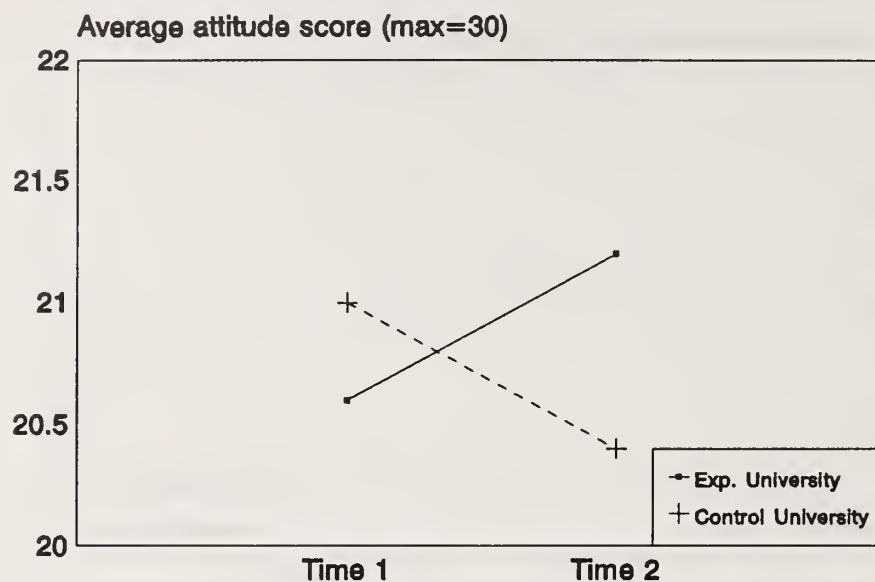
Figure 6. Change in First Year Students' Attitudes Towards
Abstinence From Time 1 to Time 2 (Experimental
University Compared with Control University)

Average attitude score (max=56)

University Health Promotion Program
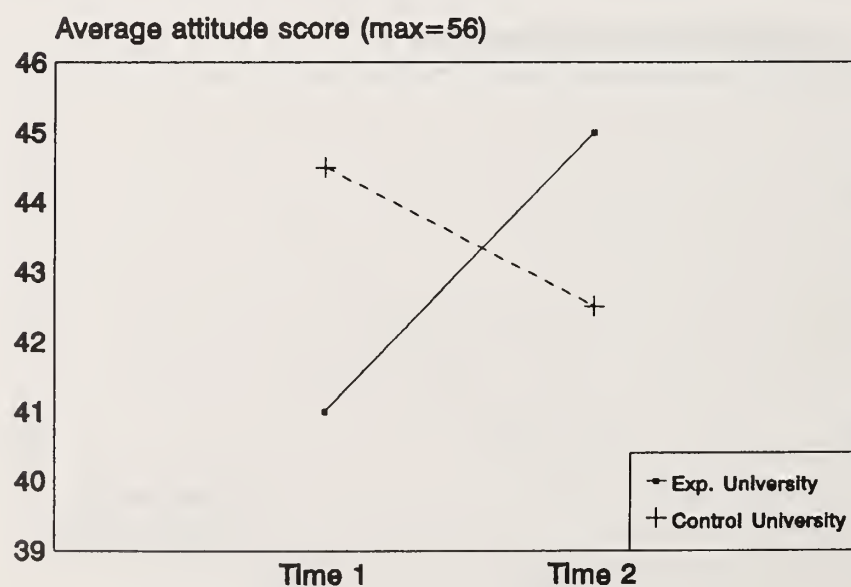
Figure 7. Change in First Year Students' Knowledge About Alcohol and Drinking From Time 1 to Time 2 (Experimental University Compared with Control University)

Average knowledge score (max=10)

Legend: Exp. University; Control University

Time 1   Time 2
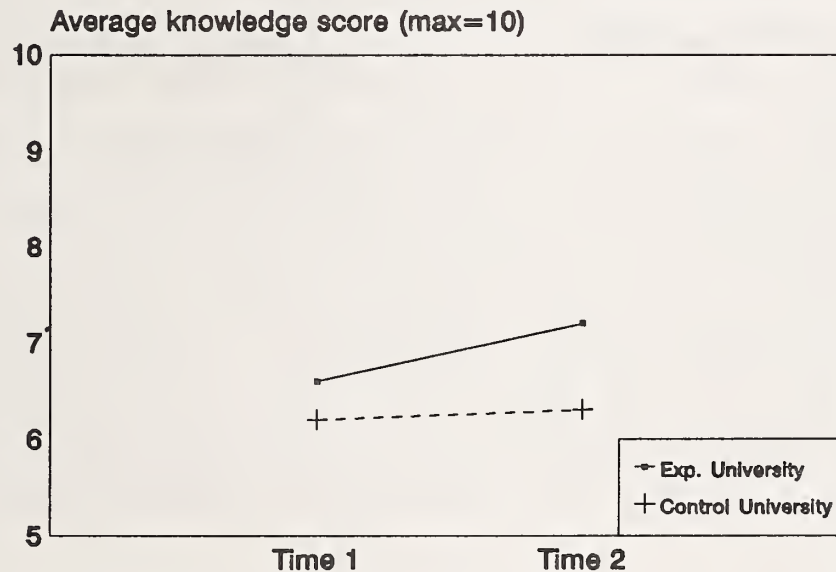
f.   How were the results used?

Despite the generally positive results ultimately demonstrated by the evaluation (in terms of knowledge, attitudes and behaviour), the modifications the program was required to make in the design and samples (see Methodological, measurement, and ethical issues, next page) meant that the results needed to be interpreted cautiously. In addition, the demonstrated short-term positive effects of the program could not necessarily be assumed to be long-lasting. Although the results were encouraging, the group conducting the evaluation concluded that further research is required to determine how long the impact lasts and to encourage the adoption of strategies to promote the long-term impact.

This example was based on a large scale real example (Gliksman et al., 1987), and some of the methodological problems encountered in the study provide some lessons in the typical problems encountered in real-life evaluations.

Methodological, measurement, and ethical issues:

Methodological and Measurement. Evaluations are conducted in the real world and often do not occur quite as planned. This large and complex project encountered a number of problems that provide an interesting lesson in the difficulties of doing evaluation. The study was originally designed as a randomized, experimental, field study. The initial plan was to have access to the registrars' lists of incoming first year students at both the experimental university and at the university chosen to be the comparison site. From these lists, random samples of 1,500 students were to be selected who were then to be sent a survey by mail prior to their arrival at the university (i.e., in the month of August). One week later, all subjects were to be sent a reminder letter. One week after this, students at the experimental site were to be sent the educational material by the university. The material was sent by the university because it was felt that students would be more likely to read the material if it was perceived as being part of the initial documentation from the university.

Eight months later, these same 1,500 students in each university were to be sent a second survey, which would serve as the post-test and would be identical to the first except for changes that would accommodate the seven months they would have been on campus. The students at the experimental university would also be asked about their awareness of the program and their reactions to it.

In addition to these questionnaires, the use of additional data sources was proposed. To capture the effect of the intervention on the rest of the student population, brief interviews would be conducted with random samples of second, third, and fourth year students. To determine the effects of alcohol on violent acts and student vandalism, arrangements were made to access the records of campus police. Finally, to determine the effects of the campaign on the drinking practices of students, the evaluators were to be permitted to review and monitor the sales data of the university bars in both sites.

Initial arrangements and agreements notwithstanding, a number of events occurred that affected the results and necessitated changes in both the implementation of the program and the collection and analysis of the data.

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1. Initially, both universities agreed to provide complete lists of all students whom they had accepted into first year. Fifteen hundred students were to be randomly selected from these complete lists. Only the experimental site provided a complete list of students. The control university decided to select the 1,500 students on its own and send those names and addresses. Instead of randomly selecting these students from the entire list, it was determined, after the study had begun, that they had sent the first 1,500 names on their list. Such a sample could not be expected to reflect the population of first year students at that university, since those accepted first are likely to be different from those who enrol later.

2. It was anticipated that during the course of the intervention, a number of the policy initiatives which had been accepted in principle by the alcohol advisory committee would be implemented. However, because of the reluctance of the representatives of some of the departments involved in the sale of alcohol who were on the alcohol advisory committee, these were never adopted, nor even formally considered for implementation. In addition, one of the policies which had been implemented, differential pricing, was the cause of a great deal of concern for the managers of the various bars on campus and resulted in a number of confrontations. Briefly, the policy is based on the premise that students could be encouraged to drink lower alcohol-content beverages by providing a monetary incentive – that beer be priced according to alcohol content, thus making 2.5% beer less expensive than 4.0% beer which was in turn less expensive than 5.0% beer which was then less expensive than 6.2% beer. Each type was to differ in price by $.25. In fact, 6.2% beer was already more expensive, and so only two new pricing strategies needed to be introduced. Initially, some managers resisted the quarter difference and so accommodations were made for them. Others resisted the need to sell the very light beer and so this requirement was dropped. The final agreement had differential pricing for 6.2%, 5.0%, and 4.0% beers, with one bar having a quarter differential, a second having a fifteen cent differential and a third having only a ten cent differential. After two months of operation, managers refused to continue with the differential pricing policy because they claimed that they were losing too much money. Although the alcohol policy committee supported the policy, they were reluctant to confront the student bar managers and agreed to drop the policy completely, reverting to the initial, uniform pricing policy part way through the year.

3. The ads which appeared in the student newspaper were designed to promote and reinforce the four "appropriate" behaviour messages initially presented in the booklet sent out by the university. The university chose not to have its name associated with the messages in these ads, thus effectively disassociating itself from the theme of the campaign and the booklet initially sent out. This reduced the consistency of the message for which the program had strived.

4. Because the lists of students from which the samples of 1,500 were drawn were not the final lists of students who attended, but only those who had been accepted and who had then indicated a willingness to attend, a significant proportion of students in each school sample (approximately 20%) ultimately did not attend the university for which they were drawn. The loss of subjects for the study was further exacerbated because the surveys were sent to their parents' homes and the students had moved or were working out of town for the summer. Thus, some students did not receive the first survey or the education package that followed two weeks later. Also, the post-test surveys were sent to the initial addresses of students applying to the university, and many surveys were returned as not deliverable because the students had moved. Finally, some students chose not to fill out surveys at all, some would not fill out the same survey twice, and others were unpredictable about when they would fill out a survey. Therefore, the number of students who filled out both the pre-test and the post-test was lower than expected.

5. One part of the evaluation included monitoring records of the university security departments. It had been indicated that these departments routinely collect information about offenses and document whether these charges were alcohol-related or had another basis. It was hoped that inspection of these records prior to the intervention and subsequent to the intervention would indicate whether a decrease in alcohol-related problems involving these departments had occurred. Unfortunately, the records provided were unusable. They tended to be incomplete and sporadic in the frequency of their completion, and invariably linked the offense with alcohol. Thus, one anticipated source of data was unavailable.

6. In order to determine whether the program had some impact on the drinking practices of students, the evaluation was to include examination of sales records of the individual campus bars at both sites for the year prior to the beginning of the campaign, and again for the period during which the intervention was in place. This was not possible because the managers of the experimental bars refused to provide their records for the periods requested. The most they were willing to provide were the overall sales data in terms of revenues generated and not in terms of volume and types of beverages sold, which was the format of the data required for the planned analyses.

The analyses which were initially conducted were done exactly as they had been specified in the research proposal. They did not accommodate the difficulties and problems encountered. Not surprisingly, the initial set of results showed few direct impact effects of the intervention. However, other data collected from the general student population and the experimental subjects suggested that something positive was happening. It was found that students were aware of the program and that they recognized the themes of the campaign. They generally agreed with the policies which were put into place and felt that there had been some impact on their behaviour.

Somehow, the inconsistency between the positive feedback received and the minimal program benefits observed had to be resolved. Closer inspection of the data revealed that the initial messages run during the beginning of the study were not remembered, while those which were run at the end of the campaign, closer to when the post-test surveys were sent out, were remembered. In addition, erosion of the policies took place in the two to three months prior to the post-test, and meant that whatever impact these policies may have had would not have been detected because they were not in place at the time of the evaluation.

To overcome some of these problems in measuring short-term impact, a second intervention with a modified evaluation was planned for the next year. The second intervention capitalized on the lessons learned in the first evaluation. Two major changes were made in the intervention itself. First, the bar managers were contacted and asked to provide input into the policies which they were being asked to support. Only those policies for which unanimous endorsement could be achieved were implemented. This ensured that managers would not sabotage policies that they did not like, but also meant that the list of policies implemented was significantly abbreviated from that which was initially implemented. Secondly, the media campaign was conducted over a much shorter time period. The four messages were run during a two-month period after which the post-test was conducted. The intent then was to determine whether the program had any short-term impact. The results reported in Part 2 are based on this modified evaluation.

Ethical. Maintaining the confidentiality of the information collected as part of the evaluation was of paramount importance. In order to follow up students for the second testing, it was necessary to retain their names and addresses. In order to ensure the confidentiality of questionnaires, pre-test and post-test questionnaires were linked using information that did not reveal the identity of respondents in the datafile, including: gender, date of birth, and the last four digits of the respondent's parents' telephone number. Thus, although questionnaires were mailed using names, they came back anonymously.

UNIVERSITY SURVEY

What is your birthdate?

_____
Day   Month   Year

What are the last 4 digits of your home
(parents') phone number?

____ ____ ____ ____

Please indicate whether you are male or female: Male __   Female __

The following set of questions deal with some of your attitudes and beliefs about alcohol use and alcohol problems. Please circle the number to the right of the question that most accurately reflects your attitude.

Disagree Strongly	Disagree	Neutral/Not sure	Agree	Strongly Agree
1	2	3	4	5

1. I'll probably not refrain from driving if I've had one or two drinks.   1 2 3 4 5

2. I don't enjoy parties when everyone gets really drunk.   1 2 3 4 5

3. It's my responsibility not to let a friend who's impaired drive.   1 2 3 4 5

4. If you're feeling depressed about too much school work, the best   1 2 3 4 5
    thing to do is relax and have a few drinks.

5. I think I am a more alert driver if I've had a small amount to drink.   1 2 3 4 5

6. It's not a good idea to have a drink or two at dinner if you have an   1 2 3 4 5
    evening class.

7. The best parties are the ones I can't remember very well.   1 2 3 4 5

8. A hangover is a reasonable price to pay for having a good time at a party. 1 2 3 4 5

9. People can judge for themselves whether they're too drunk to drive.   1 2 3 4 5

10. I probably wouldn't date someone who gets drunk a lot at parties.   1 2 3 4 5

11. Friends would think I couldn't handle my liquor if I left my car and   1 2 3 4 5
    took a taxi home.

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12. No doubt I will hang around with a crowd that gets fairly drunk at pubs and parties.   1 2 3 4 5

13. Getting drunk is a problem only if you hurt yourself or somebody else.   1 2 3 4 5

14. I expect I'll have a few drinks if I feel uptight about school.   1 2 3 4 5

15. I will have a better time at a party if I get drunk.   1 2 3 4 5

16. I don't enjoy hanging around with people who get drunk.   1 2 3 4 5

17. The host at a party should make sure that anyone who is drunk doesn't drive home.   1 2 3 4 5

18. I will probably get really drunk at a few parties this year.   1 2 3 4 5

19. There's not much point to a party if you don't get fairly hammered.   1 2 3 4 5

20. I would make my friends stay overnight or take a cab or bus home if they got drunk at my place.   1 2 3 4 5

21. There's nothing wrong with getting drunk at a party.   1 2 3 4 5

22. Jogging or some other form of exercise is more relaxing than drinking if you're uptight at school.   1 2 3 4 5

23. There's nothing wrong with having a few drinks before studying.   1 2 3 4 5

24. There's nothing wrong with getting drunk occasionally.   1 2 3 4 5

25. Knowing myself, I'd drive even if I'd had a lot to drink.   1 2 3 4 5

26. A small amount of alcohol before an exam can make you less nervous so you'll do better.   1 2 3 4 5

27. I think drunks at parties are pretty entertaining.   1 2 3 4 5

28. Please place an 'X' in the space on the scale that best reflects your impressions about **abstinence** or not drinking.

(a) pleasant ____:____:____:____:____:____:____ unpleasant
(b) unsociable ____:____:____:____:____:____:____ sociable
(c) immoral ____:____:____:____:____:____:____ moral
(d) unhealthy ____:____:____:____:____:____:____ healthy
(e) fair ____:____:____:____:____:____:____ unfair
(f) foolish ____:____:____:____:____:____:____ wise
(g) good ____:____:____:____:____:____:____ bad
(h) appropriate ____:____:____:____:____:____:____ inappropriate

29. In this section we would like to ask you some more information about alcohol. Please print the letter of the selected alternative in the space to the left of each question.

(a) True   (b) False   (c) Don't Know

_____ a. One can be impaired without being drunk.

_____ b. Mixed drinks aren't absorbed by the body as quickly as undiluted drinks.

_____ c. More than 50% of the adult population drink less than two standard drinks per day.

_____ d. One to two drinks wouldn't impair co-ordination in a young healthy person.

_____ e. Alcohol can cause irreversible brain damage.

_____ f. An average of four drinks per day or more, over a long time, will not increase your risk of health problems.

_____ g. There is no evidence that alcohol consumption increases risk of cancer.

_____ h. One beer won't make you as drunk as a shot of hard stuff like whisky.

_____ i. If your stomach is full, you can drink as much as you want without getting drunk.

_____ j. Ten percent of college students can be classified as heavy drinkers.

_____ k. A person cannot be charged with impaired driving if his or her blood alcohol level is under .05.

_____ l. The limit on any one occasion should be no more than four drinks.

_____ m. Alcohol has the same effect on men and women if their weights are similar.

Drinking Diary

Please estimate the **number** and type of alcoholic drinks that you had for **each** of the days during the past week.

DAY	Amount & Type of Beverage			
	How many bottles of regular beer? (5% alc)	How many bottles of light beer? (<5% alc)	How many 1 ½ oz. glasses of spirits?	How many 5 oz. glasses of wine?
SUNDAY				
MONDAY				
TUESDAY				
WEDNESDAY				
THURSDAY				
FRIDAY				
SATURDAY				

C. Parent Education Workshop:
A Health Promotion Presentation about
Alcohol and Drugs for Parents of Adolescent Children

Program: The program was sponsored by the Drug and Alcohol Committee of a local school board and was targeted at parents of adolescent students. The committee, hoping to raise awareness among parents, presented an evening panel discussion of drug and alcohol issues confronting adolescents.

This example includes quality enhancement questions for three levels of evaluation:

Part 1.   Consumer Characteristics

Part 2.   Consumer Satisfaction

Part 3.   Consumer Characteristics by Consumer Satisfaction.

Level of difficulty: easy
Level of resources needed: minimal

Part 1. Consumer Characteristics

Did both fathers and mothers attend the presentation?

What proportion of those who attended were parents of adolescent children?

a.   Who was asking the questions and why did they want this information?

Committee members noticed that the majority of people who attended last year were mothers even though invitations had been extended to both parents. Since the committee feels that it is helpful to have both parents aware of the issues, they were interested in why only mothers were attending.

A concern of the Drug and Alcohol Committee was that the information they were presenting was designed for the parents of adolescent children who may already be experimenting with drugs. From the questions asked at last year's presentation, it seemed that many of the audience were parents of children still in public school. If, indeed, the majority of the audience were parents of pre-adolescents, an effort should be made to include information for parents of younger children who may not yet be experimenting.

b.   What resources were needed to collect and interpret the data?

It was necessary to design a short questionnaire to be completed by members of the audience (see questionnaire at the end of Part 1). This took approximately two days including meeting to decide on the questions, drafting the questions, typing and duplicating the questionnaire. It also took a committee member a couple of hours to tally the information from the questionnaires and prepare a summary.

c. *How were the data collected?*

Following the presentation, the members of the audience were asked to remain in their seats in order to complete a short evaluation questionnaire. Volunteers handed a questionnaire to each person and stood by the door to collect completed surveys.

d. *How were the data analyzed?*

Questions 2, 4, 5 and 6 of the questionnaire were used to address the quality enhancement questions specified for this part of the example. A committee member totalled responses from question 2 to identify the number of males and females attending. Questions 4 and 6 were totalled by hand in the same way. For question 5, the number of children reported by each participant was calculated and divided by the number of participants to arrive at an average score for number of children.

e. *What did they find out?*

All 60 people who attended the presentation completed the feedback questionnaire. Of these, 48 (80%) were women. Of the 48 women who attended, 37 (77%) indicated that they were separated, divorced or widowed. Of the 12 men who attended, only two (17%) indicated that they were separated, divorced or widowed. Since some people who attended were married couples, the analyses addressing the second question (proportion of those attending who were parents of adolescents) were based on households, not individual respondents. There were six married couples who attended; therefore, responses for 54 households were included in the analyses. The average number of children per household among those attending was 2.7. Twenty-four households (44%) had children who were 13 or older, 23 households (43%) had children 12 or under, and seven households (13%) had at least one teenaged child and at least one younger child.

f. *How were the results used?*

The information collected was useful to the committee for planning next year's evening panel discussion. Since many of the parents were single mothers it was decided to address some issues facing single parents who were dealing with their children's drug use. Also, because parents of pre-adolescents were attending the discussion, it was decided to include issues facing them and their children as well.

DRUG AND ALCOHOL AWARENESS AND YOUR TEENS
Panel Discussion

> We are interested in your reactions to the panel discussion on "Drug and Alcohol Awareness and Your Teens". Please complete this questionnaire to help us plan future Alcohol and Drug Awareness panel discussions. Your responses will be totally anonymous. Thank you for your cooperation.

1. What is your age? |___|___|

2. Are you?
   ☐ Male
   ☐ Female

3. What is your current marital status?

   ☐ Married or living common-law
   ☐ Separated, divorced, or widowed
   ☐ Single, never married

4. How many children do you have?   _____

5. What are the ages of your children? *(Check one only.)*

   ☐ 13 or older
   ☐ 12 or younger
   ☐ Both 13 or older and 12 or younger

6. How did you hear about this event? *(Check all that apply.)*

   ☐ At work   ☐ Media advertisement
   ☐ At church   ☐ Word of mouth
   ☐ At school   ☐ Other (please describe)
   ☐ Children's school   _____

7. Why did you attend? *(Check all that apply.)*

  ☐ General interest
  ☐ Worried about my kids now
  ☐ Worried about my kids when they are teens

Please rate this panel discussion on the following scales by placing an X in the space closest to the word that best describes your feelings.

---

8. **The Panel Discussion was:**

informative	__|__|__|__|__	uninformative
useful	__|__|__|__|__	useless
organized	__|__|__|__|__	disorganized
interesting	__|__|__|__|__	boring
clear	__|__|__|__|__	confusing
helpful	__|__|__|__|__	not helpful
understandable	__|__|__|__|__	not understandable

9. Considering how you felt about this panel discussion, would you attend another Drug and Alcohol Awareness panel discussion if one were held in the future?

  ☐ Yes
  ☐ No

10. Further comments or suggestions for improvement _____
_____
_____
_____
_____
_____

Level of difficulty: easy
Level of resources needed: moderate

Part 2. Consumer Satisfaction

How satisfied were people who attended the presentation?

a. *Who was asking the question and why did they want this information?*

When a similar program was held last year, a few members of the audience indicated to **committee members** that they enjoyed the evening. However, most people did not bother to provide either positive or negative comments. This year, the committee was interested in finding out in a more systematic way whether the program they presented was well received by those who attended. They were also interested in ways the audience felt the program could be improved for next year.

b. *What resources were needed to collect and interpret the information?*

One committee member spent one day coding the information required, entering some of the information into the computer, tallying some information from the questionnaires, and preparing a summary.

c. *How were the data collected?*

All information required had previously been collected (see questionnaire, Part 1).

d. *How were the data analyzed?*

The data from questions 9 and 10 of the questionnaire used in Part 1 were analyzed using Lotus 1-2-3 (see Appendix B). Participants had been asked to respond to question 9 by putting an "X" in the appropriate space. Before entering the data into the computer it was necessary to convert the X's in the spaces to numbers. Therefore, the first space on the left was given a value of 5; the second space, a value of 4; the middle space, a value of 3; the fourth space, a value of 2;

and fifth space, a value of 1 and each respondent's ratings numbered as shown in the example in Figure 1. For this respondent, the numbers 4, 5, 3, 1, 4, 5, and 2 would be entered into the computer. Once the data were entered for all respondents, means (i.e., average scores) were calculated for ratings of each aspect of the presentation across respondents.

Figure 1.   Example of Coding for One Person's Responses to Question 9

The Panel Discussion was:

informative	___｜_x_｜___｜___｜___	uninformative
useful	_x_｜___｜___｜___｜___	useless
organized	___｜___｜_x_｜___｜___	disorganized
interesting	___｜___｜___｜___｜_x_	boring
clear	___｜_x_｜___｜___｜___	confusing
helpful	_x_｜___｜___｜___｜___	not helpful
understandable	___｜___｜___｜_x_｜___	not understandable

Responses to question 10 were also entered into Lotus 1-2-3 and the frequency of Yes responses computed. Responses to question 11 were summarized by hand.

A bar graph illustrating the results was prepared using Lotus 1-2-3 (see Appendix B).

e.   *What did they find out?*

All 60 people who attended the presentation completed the feedback questionnaire. As shown in Table 1, respondents rated the panel discussion very highly on most dimensions. The most highly rated dimensions were helpfulness, informativeness, and usefulness. The lowest rating was given to the extent to which the presentation had been well-organized. Figure 2 shows a bar graph of the same results, prepared using Lotus 1-2-3.

The presentation had been late starting and there was some confusion in running the panel demonstration. When asked for suggestions for making the evening better next year, 12 people suggested that the program begin on time, seven people said that some panel members should speak more slowly, and seven people requested that there be some information or pamphlets to take home. Fifty (83%) respondents reported that they would be willing to attend another panel discussion.

Table 1.   **Average Ratings of Various Aspects of the Panel Discussion**

	Score
Average satisfaction ratings:	
informative	4.7
useful	4.6
organized	2.9
interesting	4.2
clear	4.0
helpful	4.8
understandable	4.1
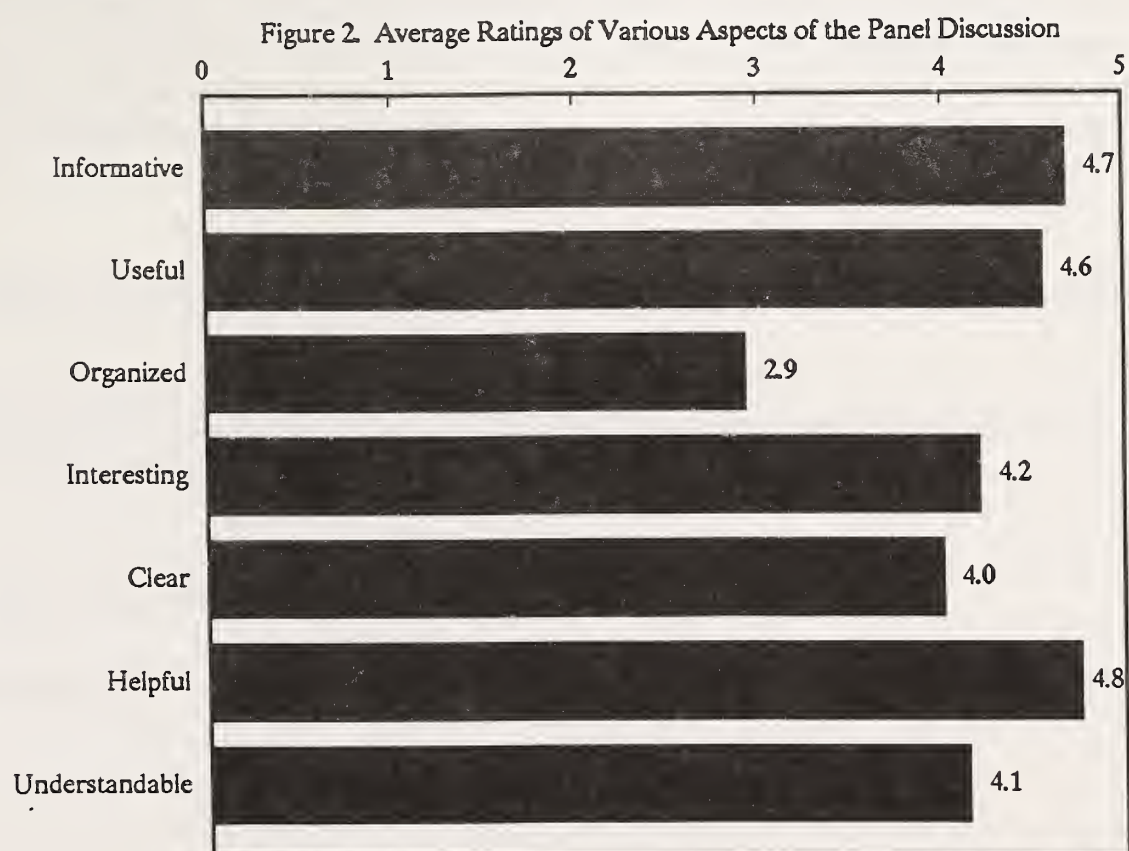
Figure 2. Average Ratings of Various Aspects of the Panel Discussion

f. *How were the results used?*

The information collected was useful to the committee for planning next year's presentation. They decided to retain the evening panel discussion, but to ensure that it would start on time. The presenters would be briefed ahead of time regarding the speed with which material should be presented and the format of the discussion. In addition, presenters would be asked to prepare handouts that could be distributed to those who attended. The committee members also planned to ensure that pamphlets on alcohol and drug use by young people would be available.

Part 3. Consumer Characteristics by Consumer Satisfaction

Was there a difference between mothers and fathers on how satisfied they were with the presentation?

Did parents of adolescent children rate the presentation more positively than parents of younger children?

a.   Who was asking the question and why did they want this information?

Because more mothers than fathers attended the presentation, **the committee** wanted to be sure that there was nothing in the content of the program that was causing men to stay away. Also, because the committee was aware that parents of pre-adolescent children were attending the presentation, they were interested in their ratings of the evening compared to the ratings by parents of adolescents, for whom the presentation had been designed (see Parts 1 and 2 of this example).

b.   What resources were needed to collect and analyze the information?

A committee member had already entered much of the relevant information on the computer using Lotus 1-2-3. About three hours were needed to do the appropriate analyses and prepare summaries of the results.

c.   How were the data collected?

All information required had previously been collected (see questionnaire, Part 1).

d.   How were the data analyzed?

The data for questions 9 and 10 had been entered into the computer previously. **[Typically, all information would have been entered into the computer in the first place. This example has been designed, however, to demonstrate how an evaluation can be broken down into simple stages and to demonstrate adding new data to an existing file.]** It was now necessary to add the information from questions 2 and 6 so that relationships between satisfaction and gender and satisfaction and age of children could be examined. As in question 9, the check marks in questions 2 and 6 had to be converted to numbers before being entered into the computer. Therefore, in question 2, 'male' was given a value of 1 and 'female' a value of 2.

For ease of analysis, it was decided to combine the people who only had children over 13 with those who had children both 13 or older and 12 or younger (i.e., combining all those who had at least one teen). Therefore, respondents were coded as 1 – 'parent of at least one child who is 13 or older' and 2 – 'parent of a child or children who are all 12 or younger'.

Means were compared for the seven five-point scales in question 9 for male compared to female participants and for parents of the two age groups of children. In this part of the example, the fact that some respondents were married to each other was ignored.

Line graphs comparing the results for each of the two comparisons were prepared using Lotus 1-2-3 (see Appendix B).

e.   What did they find out?

As shown in Table 1, both males and females rated the panel discussion positively, with slightly higher ratings provided by females on all aspects of the presentation. The same information is presented in Figure 1 in line graph format, using Lotus 1-2-3.

Thirty-five people who attended the presentation had at least one child 13 years of age or over, while 25 people reported that all their children were 12 and under. There were no major differences in ratings of parents of teens versus those whose children were under 13, although there was a trend for those with teenage children to rate the program slightly more highly (see Table 2 and Figure 2).

Table 1. **Average Ratings of Various Aspects of the Panel Discussion for Females Versus Males Who Attended the Presentation**

	Females n=48	Males n=12
informative	4.7	4.6
useful	4.6	4.3
organized	3.0	2.7
interesting	4.3	3.9
clear	4.1	3.5
helpful	4.8	4.7
understandable	4.2	3.7

Figure 1. Average Ratings of Various Aspects of the Panel Discussion for Females Versus Males Who Attended the Presentation
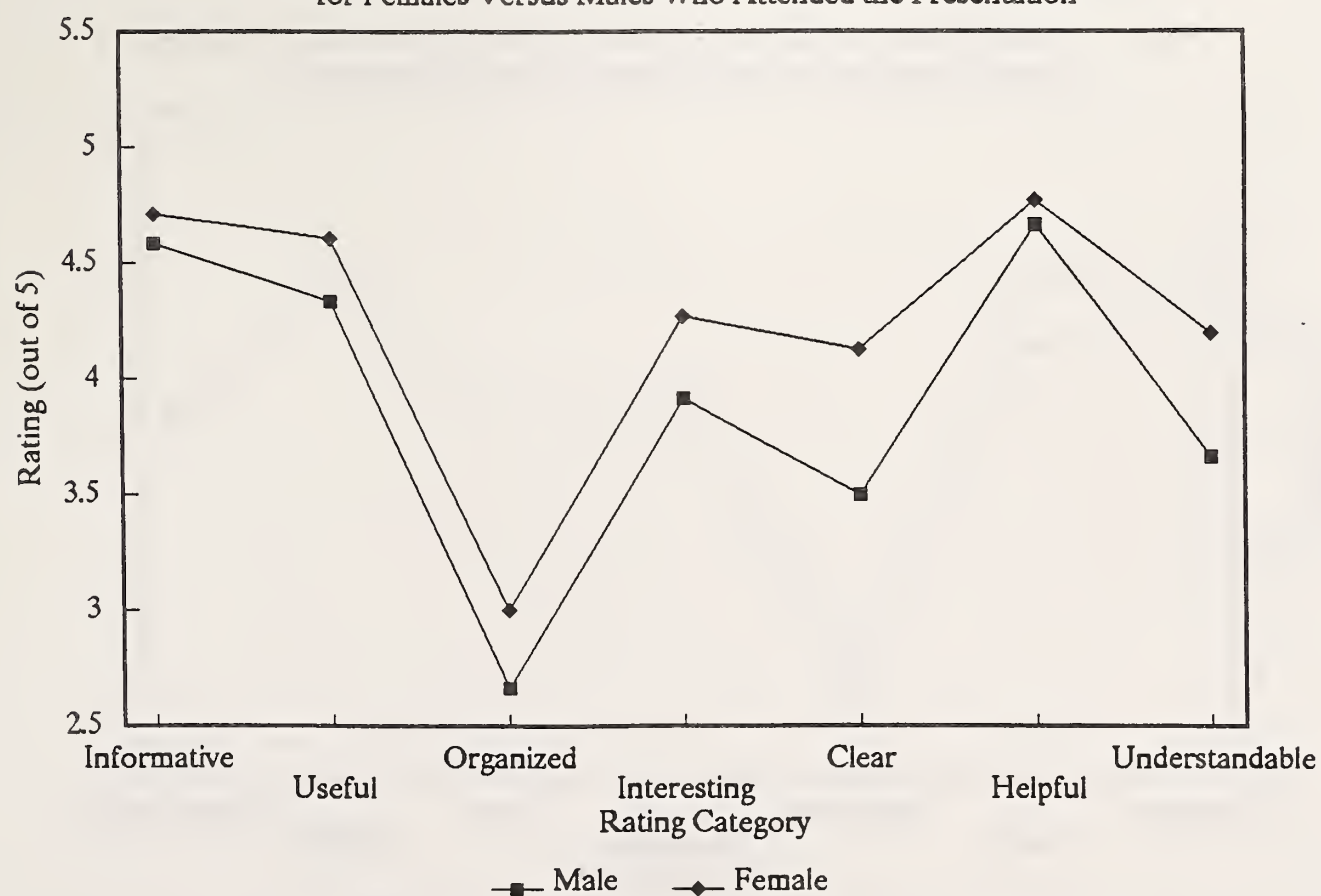
Table 2.   Average Ratings of Various Aspects of the Panel Discussion by Parents of Teens Versus Parents Whose Children Were All Under Age 13

	All children aged 12 or younger n=25	At least one child 13 or older n=35
informative	4.6	4.8
useful	4.5	4.7
organized	2.8	3.1
interesting	4.1	4.3
clear	3.9	4.2
helpful	4.8	4.8
understandable	4.1	4.1

Figure 2. Average Ratings of Various Aspects of the Panel Discussion by Parents of Teens Versus Parents Whose Children Were All Under Age 13

At least one adolescent child   No adolescent children
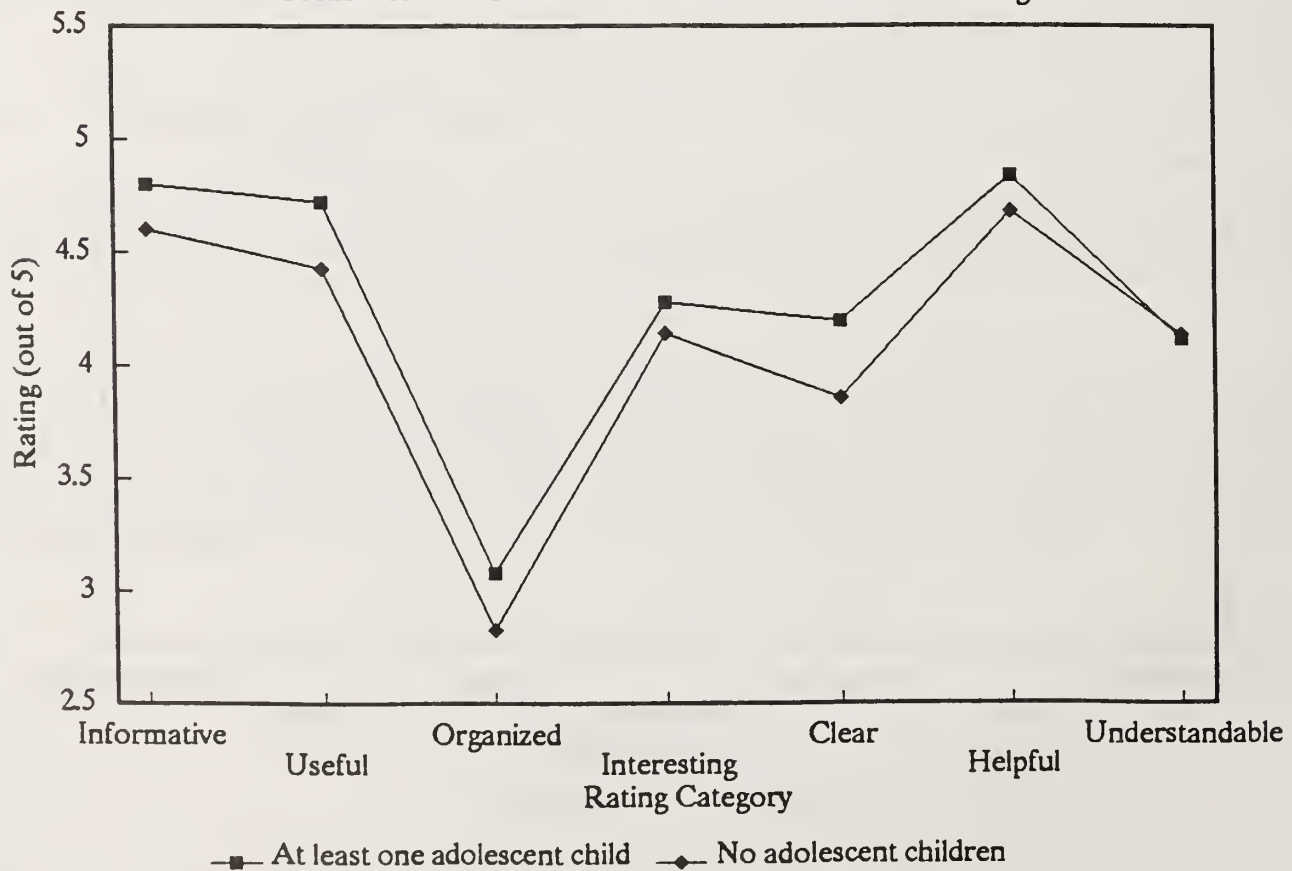
f.   *How were the results used?*

It appeared that fathers who attended the presentation were slightly less satisfied than mothers. Since the differences were not large and the number of fathers who attended was small, no firm conclusions could be drawn from the differences observed. The committee assumed that the high proportion of mothers attending was probably a product of the culture, but that they should continue to monitor satisfaction ratings of fathers compared to mothers.

Parents appeared to be equally satisfied with the presentation regardless of the ages of their children, although ratings by parents whose children were all under 13 were slightly lower. This seemed to indicate that the material was appreciated by parents regardless of whether their children had reached their teen years yet.

D. Workplace Health Promotion Program

Program: A large car manufacturing plant developed and evaluated a health promotion program that included three components: a smoking cessation program, a fitness program, and a blood pressure clinic. The smoking cessation program provided education on aversive strategies and self-control strategies used to overcome urges to smoke, and was delivered by an external program leader paid by the company on a fee-per-service basis. Because of its cost and format, it was decided to offer the smoking cessation program to only half of the smokers in the company. Eligibility for the program would be determined by random selection using employee numbers for those who reported being light or heavy smokers at pre-test. This would allow an unbiased determination of the effectiveness of the smoking cessation program and provide a suitable design for evaluating cost effectiveness. The program consisted of eight sessions (50 minutes each) that occurred at the beginning/end of shifts (using 30 minutes from each shift). Thus, those attending were allowed to miss 30 minutes of work (either at the beginning or end of their shifts) for which they were paid. Eligible employees could sign up for only one set of eight sessions.

The fitness program consisted of a 50-minute workout offered everyday at noon. The blood pressure clinic involved a nurse being available to check employees' blood pressure. The nurse provided education regarding the importance of addressing high blood pressure and encouraged employees to see their family physician if their blood pressure exceeded 140/90 on at least two occasions.

This example includes quality enhancement questions for six levels of evaluation:

Part 1. Logic Model

Part 2. Client Characteristics

Part 3. Program Delivery

Part 4. Outcome Evaluation

Part 5. Program Delivery by Outcome Evaluation

Part 6. Economic Evaluation.

Part 1. Logic Model

Logic Model for Company Health Promotion and Prevention Program

MAIN COMPONENTS	SMOKING CESSATION PROGRAM	FITNESS PROGRAM	BLOOD PRESSURE CLINIC
IMPLEMENTATION OBJECTIVES	To teach self-control strategies to people trying to stop smoking	To provide fitness opportunities to employees	To provide education to employees about reducing blood pressure
OUTPUTS	# of course participants	# of participants in fitness programs	# of employees who had blood pressure measured
SHORT-TERM OUTCOME OBJECTIVES	To reduce smoking among employees	To increase cardiovascular health of employees	To reduce blood pressure of employees
OUTCOME INDICATORS	# of employees who quit or reduce smoking	# of employees who exhibit improved fitness levels	# of employees whose blood pressure was reduced from problem range to non-problem range
LONG-TERM OUTCOME OBJECTIVES		To increase the overall health of employees	
LONG-TERM OUTCOME INDICATORS		% of employees whose overall health improved	

Level of difficulty: moderate
Level of resources needed: heavy

Part 2. Consumer Characteristics

What proportion of employees were smokers at the beginning of the program?

What were the fitness levels of employees when the program began?

What proportion of employees were classified as hypertensive (i.e., blood pressure reading of 140/90) at the beginning of the program?

a.   *Who was asking the questions and why did they want the information?*

The **company** has developed a workplace health promotion program, including three components: a smoking cessation program, a fitness program, and a blood pressure clinic. Part of implementing the program included assessing the initial smoking status, fitness level, and blood pressure level of the employees. This information would serve as a baseline for assessing the impact of the program.

Employees were given time off to participate in the assessment. Education regarding blood pressure was provided at the time of the testing. Participation was not required, but employees were encouraged to attend, and most did.

b.   *What resources were needed to collect and interpret the information?*

The five company nurses spent approximately two months each assessing employees and documenting the information on a summary form. The forms were sent to a key-punching firm for data entry. The data were returned on disks to the work-force health co-ordinator who spent approximately 15 hours cleaning the data file for data entry errors and analyzing the information. In order to complete the fitness test, a treadmill was required. In order to complete the analyses for this evaluation, a computer and software capable of computing simple statistics were required.

c.   *How were the data collected?*

As a part of the assessment process, the company nurses completed an assessment summary for every employee. Each employee was assessed anonymously, but a code was developed to serve as an identifier for future reference. This code consisted of the last four digits of each employee's phone number, his or her day of birth (2 digits), and month of birth (2 digits - 01 to 12). Information about employees was coded as follows:

(a)   smoking status:
　　　　　1.   non-smoker (never smoked or has not smoked for at least 12 months)
　　　　　2.   recent former smoker (quit smoking within the last 12 months)
　　　　　3.   light smoker (less than 10 cigarettes per day)
　　　　　4.   heavy smoker (10 or more cigarettes per day)

(b)   fitness level:
　　　　　1.   very fit
　　　　　2.   adequate fitness
　　　　　3.   less than adequate fitness

(c)   blood pressure:
　　　　　1.   non-hypertensive (BP=140/90 or less)
　　　　　2.   hypertensive (BP with higher number greater than 140 and/or lower number greater than 90, tested on at least 2 occasions).

Fitness level was determined by measuring body weight, body fat, resting heart rate, and heart rate at two intervals during treadmill exercise.

d.   *How were the data analyzed?*

Proportions of employees in each category of smoking status, fitness level, and blood pressure were calculated using a computer. Pie graphs illustrating the results were prepared using Harvard Graphics (see Appendix C).

Figure 1. Smoking Status of Employees at Initial Assessment

Non-smoker
(2,986) 64%

Recent former smoker
(293) 6%

Light smoker
(492) 10%

Heavy smoker
(929) 20%
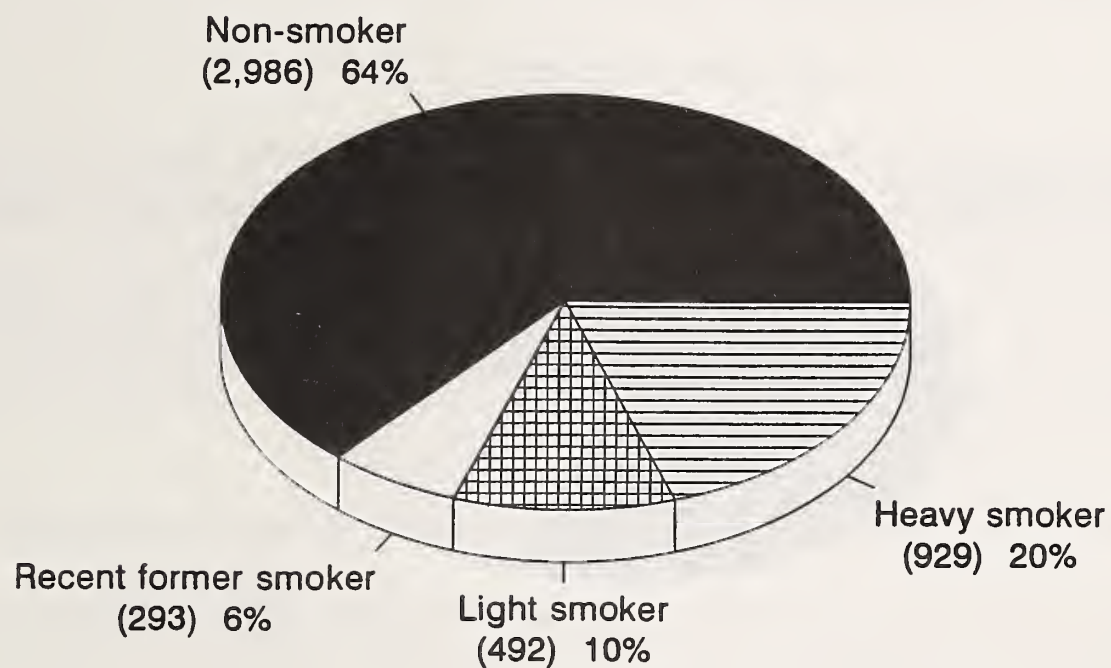
Figure 2. Fitness Level of Employees at Initial Assessment

Not adequately fit
(2,761) 59%

Very fit
(290) 6%

Adequately fit
(1,649) 35%
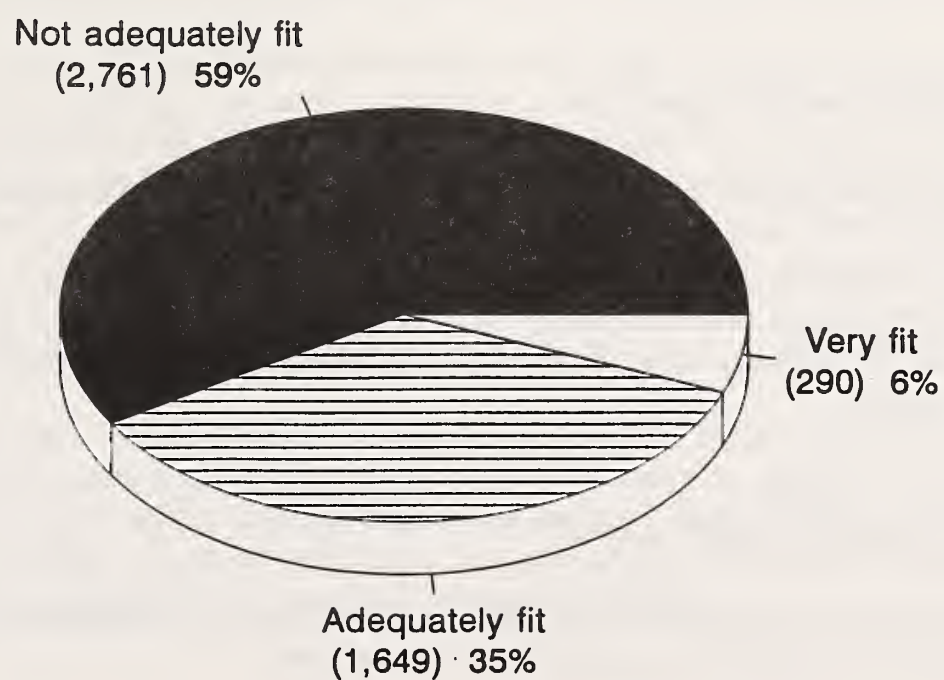
Figure 3. Blood Pressure of Employees at Initial Assessment

Non-hypertensive
(3,760) 80%

Hypertensive
(940) 20%
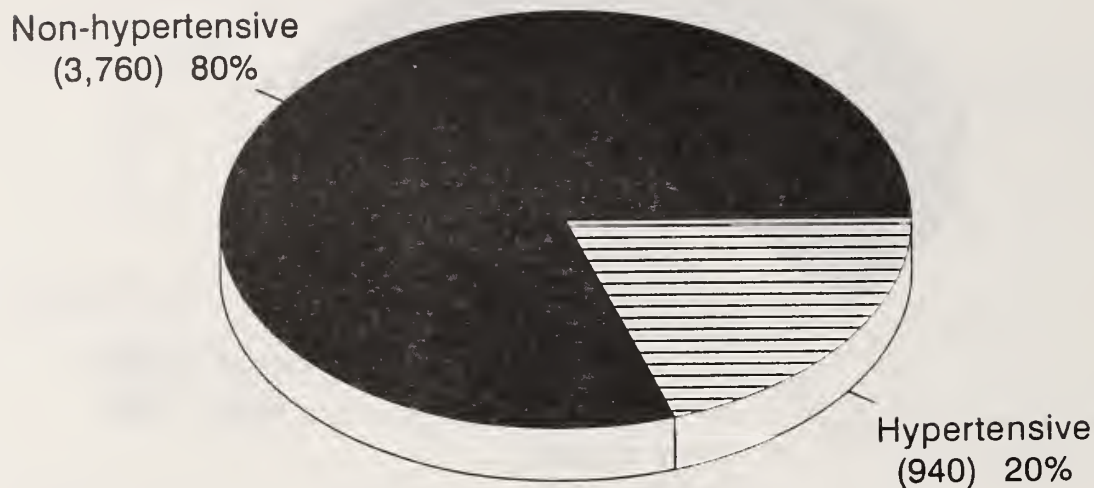
e. What did they find out?

Of 5,000 employees, 4,700 (94%) participated in the program. While the majority of employees were non-smokers, 20% were heavy smokers and an additional 10% were light smokers (see pie graph, Figure 1, prepared using Harvard Graphics). As shown in Figure 2, the majority of employees (59%) were less than adequately fit, 35% were adequately fit, and 6% were very fit. Finally, as Figure 3 indicates, 20% of the employees were categorized as having hypertensive blood pressure levels.

f. How were the results used?

The results were kept in the computer to serve as a baseline for comparison with information to be gathered one year after the program had been in place.

Level of difficulty: moderate
Level of resources needed: moderate

Part 3. Program Delivery

What proportion of employees attended the fitness program?

What proportion of eligible employees participated in the smoking cessation program?

a. Who was asking the questions and why did they want the information?

As part of implementing the programs, the **company** evaluated attendance at the programs at the end of one year. In particular, they wished to determine the proportion of all employees who attended the fitness program as well as the proportion of eligible light or heavy smoking employees who attended the smoking cessation program.

b. What resources were needed to collect and interpret the information?

The smoking cessation program leader maintained ongoing records of attendance in the program. The fitness program included a system of tracking attendance. The work-force health co-ordinator spent approximately four hours analyzing the information. In order to complete the analyses for this evaluation, a computer and software capable of computing simple statistics were required.

c. How were the data collected?

The smoking cessation program leader maintained a count of all employees who used the program. This information was provided to the work-force health co-ordinator. Participants in the fitness program were asked to swipe their employee card each time they used the fitness facility. Information about usage of the facility was tracked by the company computer and the computer output was provided to the work-force health co-ordinator.

d. How were the data analyzed?

The proportion of eligible employees of the company who had used the smoking cessation program within the last 12 months was calculated by hand. In addition, the total number of participants in each session was summed across all sessions to determine the total number of employee sessions provided. Using the computer file on attendance at the fitness program, employees were classified as: non-attenders or attended less than twice a month, occasional attenders (less than three times per week but two or more times per month), and regular attenders (at least three times per week).

e. What did they find out?

The company maintained a work-force of approximately 5,000 employees during the year, with a turnover rate of about 15%. During the year of the program, 778 employees left the company, and 727 employees joined company. Therefore, there were 5,727 employees who had access to the fitness program. Of this number, 859 (15%) attended the program at least twice a month.

Only employees who participated in the baseline assessment were part of the selection process for eligibility to attend the smoking cessation program. That is, half of the 929 heavy smokers (i.e., 464) and half of the 492 light smokers (i.e., 246) were selected as eligible for the program. Of those eligible, 271 (38%) participated in at least one session of the smoking cessation program. This included 180 heavy smokers and 91 light smokers.

f. How were the results used?

The results indicated that employees did use the health promotion program, and suggested that some changes in employee health might be expected as a result of the program. Therefore, the company proceeded with outcome evaluation.

Methodological, measurement, and ethical issues:

Ethical. While employee identification numbers identified those who used the fitness facility and how frequently they used it, the work-force health co-ordinator had no way of connecting the numbers with the names of the employees, thus maintaining the anonymity of the fitness program users.

| Level of difficulty: moderate |
| Level of resources needed: heavy |

Part 4. Outcome Evaluation

> *What proportion of employees of the company quit or reduced smoking?*
>
> *What proportion of employees improved their fitness level?*
>
> *What proportion of employees reduced blood pressure from hypertensive classification (i.e., greater than 140/90) to non-hypertensive?*

a. *Who was asking the questions and why did they want this information?*

When the **company** implemented the health promotion program, it was done on a trial basis. Part of implementing the program included a 12-month follow-up to assess any changes among employees compared to baseline levels. Employees were surveyed before the implementation of the program (see Part 2) and again one year later to measure smoking status, fitness level and blood pressure.

b. *What resources were needed to collect and interpret the information?*

The five company nurses spent approximately two months conducting follow-up assessments of employees and documenting the information along with an identifier code (last four digits of employee's phone number and day and year of birth) on a summary form. The forms were sent to a keypunching firm for data entry and returned to the work-force health co-ordinator on disk. The co-ordinator spent 20 hours cleaning the data of errors, matching pre-test and post-test data using the identifier, and analyzing the data. In order to complete the analyses for this evaluation, a computer and software capable of computing simple statistics were required.

c.   How were the data collected?

The assessment described in Part 1 was repeated 12 months later. Responses from employees at follow-up were matched with their responses at initial assessment by matching the identification codes.

d.   How were the data analyzed?

Proportions of employees in each category of fitness level, and blood pressure were compared at pre- and post-test. Only those employees who participated both in the original assessment and the 12-month assessment were included in the analyses. Since the smoking program was limited to only half of the employees who smoked, pre- and post- comparisons are made only for those who were selected as eligible for the smoking program.

e.   What did they find out?

Of the original 5,000 employees, 4,700 (94%) participated in the baseline assessment. The company has a turnover of about 15% per year. Therefore, when post-testing was done one year later, 705 (15% of the sample) had left the company. Also, 188 (4%) of the employees who participated in the original assessment did not participate in the follow-up assessment. The final sample for analysis consisted of 3,807 employees (81% of the original sample).

As shown in Table 1, there were fewer heavy smokers at the end of the program among eligible employees. Among all employees involved in the pre- and post-testing, the proportion of fit or very fit employees increased, and a higher proportion of employees showed non-hypertensive levels of blood pressure (i.e., non-problem levels) as opposed to hypertensive levels (i.e., problem levels) after the implementation of the programs.

Table 2 shows the change in smoking status among employees eligible for the smoking cessation program. As shown in this table, 20% of eligible light smokers quit smoking, and over 30% of eligible heavy smokers either quit (11%) or reduced smoking (21%).

Changes in fitness level from pre- to post-test are shown in Table 3. Although the improvement in fitness level across all employees was not large, there was a general trend for overall improvement, with those whose were already fit tending to stay at this level, while those who were less fit tended to improve overall.

Table 1. **Comparisons of Pre- and Post-test Measures (Those Employees Who Did Not Participate in Both Measures Were Excluded)**

	Pre-test	Post-test
Smoking status[a]:		
former smoker (quit smoking within the last 12 months)	-	78 (14%)
light smoker (less than 10 cigarettes per day)	191 (33%)	228 (40%)
heavy smoker (10 or more cigarettes per day)	381 (67%)	266 (47%)
Fitness level:		
very fit	190 (5%)	245 (6%)
adequate fitness	1,485 (39%)	1,625 (43%)
less than adequate fitness	2,132 (56%)	1,937 (51%)
Blood pressure (tested on at least two occasions):		
non-hypertensive (BP=140/90 or less)	3,046 (80%)	3,274 (86%)
hypertensive (BP with higher number greater than 140 and/or lower number greater than 90, tested on at least two occasions)	761 (20%)	533 (14%)

[a]Analyzed only for employees selected as eligible for the smoking program.

Table 2.   Change in Smoking Status from Pre- to Post-test by Original Smoking Category

	Smoking status at post-test		
	Quit smoking	Light smoker	Heavy smoker
Smoking status at pre-test:			
light smoker (less than 10 cigarettes per day) (n=191)	38 (20%)	150 (79%)	3 (2%)
heavy smoker (10 or more cigarettes per day) (n=381)	40 (10%)	78 (20%)	263 (69%)

Table 3.   Change in Fitness Level from Pre- to Post-test by Original Fitness Level

	Fitness level at post-test		
	Very fit	Adequate fitness	Less than adequate fitness
Fitness level at pre-test:			
very fit (n=190)	144 (76%)	34 (18%)	12 (6%)
adequately fit (n=1,485)	90 (6%)	1,353 (91%)	42 (3%)
less than adequately fit (n=2,132)	11 (1%)	238 (11%)	1,883 (88%)

f.   *How were the results used?*

Overall, employee health levels appeared to improve modestly over the 12-month period.

Gains were apparent for all three areas of smoking reduction, improved fitness and reduced prevalence of hypertension. In order to assess the extent to which these changes appeared to be related to participation in the program, further analyses were undertaken evaluating the relationships between (a) participating in the smoking cessation program and quitting smoking, and (b) attending the fitness program and improving fitness level.

Methodological, measurement and ethical issues:

Methodological. This evaluation did not use a control group to assess whether the changes that occurred were actually a result of the workplace health program. It is possible that these levels of improvement would have occurred without the program. Thus, the findings provide some support for the program's impact but do not provide conclusive evidence.

Level of difficulty: moderate
Level of resources needed: heavy

Part 5. Program Delivery by Outcome Evaluation

How many employees who participated in the smoking cessation program quit smoking compared to employees who were eligible for the program but did not participate?

What proportion of employees who reported attending the fitness program an average of two times per month or more improved their level of fitness compared to employees who did not attend the fitness program or attended at less than this rate?

a.   Who was asking the questions and why did they want the information?

The previous parts of the evaluation had found that fewer employees were heavy smokers, fitness had increased, and the proportion of employees with hypertensive blood pressure levels had decreased from the year before. The **company** now wanted the work-force health co-ordinator to assess the relationship between improvement and participation in the company's programs.

All information required for this part of the evaluation had previously been collected, and time 1 (pre-test) responses were linked to time 2 (post-test) responses by means of an eight digit identification code (see description of code in Part 2).

b.   What resources were needed to collect and interpret the information?

All information required for this part of the evaluation had previously been collected and entered in the computer. The work-force health co-ordinator spent approximately two hours analyzing the information. In order to complete the analyses for this evaluation, a computer and software capable of computing simple statistics were required.

c.   How were the data collected?

All information required for this part of the evaluation had previously been collected during the initial and follow-up surveys. In addition to repeating measures of smoking status, fitness status, and blood pressure, the follow-up summary included information about eligibility for the smoking program, and attendance at the smoking cessation program and/or the fitness program. This information was keypunched and entered into the computer database.

d.   How were the data analyzed?

Change in smoking status was assessed, comparing those who participated in the smoking cessation program with those who were eligible for the program but did not participate. Similarly, change in fitness level was compared for those who attended the fitness program and those who did not. Employees were categorized as attending the fitness program if they reported attending twice a month or more.

e.   What did they find out?

As described in Part 4, 3,807 employees (81% of the original sample) participated in both the initial assessment and the follow-up. Of these, 1,136 were either light or heavy smokers at the time of the pre-test, and 572 of these smokers were offered the smoking cessation program. Table 1 shows the pre- and post-test smoking status for the 215 who participated in the smoking cessation program compared to the 357 smokers who were eligible for the program but did not participate. These analyses indicated that employees who participated in the smoking cessation program reduced or quit smoking at a greater rate than did those who were eligible but did not participate.

Table 2 shows change in smoking status for all employees selected as eligible for the smoking cessation program (including those who participated in the program as well as those who did not) compared to those who were not selected as eligible for the program. As is evident from this table, the group selected as eligible for the smoking cessation program showed a greater reduction in smoking than occurred among those who were not eligible, suggesting an impact of the smoking cessation program.

Table 3 shows the pre- and post-test fitness levels of the 3,239 (85%) employees who were classified as not attending attend the fitness program (i.e., never attended or attended less than twice a month) compared to the 568 (15%) who attended the fitness program at least twice a month. As these data indicate, a greater proportion of employees who attended the fitness program on a regular basis achieved or maintained at least an adequate level of fitness than did employees who did not.

Table 1. **Change in Smoking Status of Light and Heavy Smokers Who Participated in the Smoking Cessation Program Compared to Smokers Who Were Offered the Program but Did Not Participate**

Smoking status at pre-test	Smoking status at post-test		
	Quit smoking	Light smoker	Heavy smoker
Those who participated in the smoking cessation program (n=215):			
light smoker (n=72)	32 (44%)	40 (56%)	0 (0%)
heavy smoker (n=143)	36 (25%)	58 (41%)	49 (34%)
Those who were offered access but did not participate in the smoking cessation program (n=357):			
light smoker (n=119)	6 (5%)	110 (92%)	3 (3%)
heavy smoker (n=238)	4 (2%)	20 (8%)	214 (90%)

Note: These figures include only those smokers who participated in both the pre-test and the post-test.

Table 2.   Change in Smoking Status of Light and Heavy Smokers Eligible for the Smoking Cessation Program Compared to Smokers Who Were Not Eligible

Smoking status at pre-test	Smoking status at post-test		
	Quit smoking	Light smoker	Heavy smoker
All employees selected as eligible for the smoking cessation program (n=572):			
light smoker (n=191)	38 (20%)	150 (79%)	3 (2%)
heavy smoker (n=381)	40 (10%)	78 (20%)	263 (69%)
Employees who were not selected as eligible for the smoking cessation program (n=564):			
light smoker (n=170)	12 (7%)	155 (91%)	3 (2%)
heavy smoker (n=394)	9 (2%)	43 (11%)	342 (87%)

Note: These figures include only those smokers who participated in both the pre-test and the post-test.

Table 3.   Change in Fitness Level for Those Who Attended the Fitness Program Compared to Those Who Did Not

	Fitness level at post test		
	Very fit	Adequate fitness	Less than adequate fitness
Fitness level at pre-test:			
Those who took the fitness program at least twice per month (n=568):			
very fit (n=42)	41 (98%)	0 (0%)	1 (2%)
adequate fit (n=371)	71 (19%)	292 (79%)	8 (2%)
less than adequate (n=155)	2 (1%)	97 (63%)	56 (36%)
Those who did not take the fitness program (n=3,239):			
very fit (n=148)	103 (70%)	34 (23%)	11 (7%)
adequate fit (n=1,114)	19 (2%)	1,061 (95%)	34 (3%)
less than adequate (n=1,977)	9 (<1%)	141 (7%)	1,827 (92%)

f.   How were the results used?

Overall, employees who took part in the smoking cessation program were more likely to quit or reduce smoking, and those who attended the fitness program were more likely to improve their fitness than non-attenders. Therefore, the company has decided to continue the health promotion program.

Since part of the evaluation involved random selection of employees who were eligible for the smoking cessation program, those who were not selected provided a control group for further analyses. Therefore, cost-effectiveness analyses of the smoking program were done in Part 6 of the evaluation. The fitness program involved no control group. Therefore, although the results of the program were positive, cost-effectiveness analyses were not justified. The extent that the fitness program **caused** the change could not be ascertained from the evaluation as designed (see Methodological note).

Methodological, measurement and ethical issues:

Methodological. As was clear in Table 3, those who attended the fitness program were more likely to improve in fitness level than those who did not attend. Although the company felt these results were sufficient to justify maintaining the program, it should be recognized that these results do not necessarily demonstrate the effectiveness of the program. Since there was no control or comparison group, it is impossible to know from the present data how many people who attended the fitness program would have attended a fitness program elsewhere if the company program did not exist. In other words, when attendance at a program is based on **self-selection**, a control group is needed to determine to what extent change is caused by people deciding to change (regardless of the program), and to what extent the program contributes to the change. Although a control condition was not used for the fitness program, from the company's perspective, it seemed worthwhile to provide the program as a vehicle for improved fitness, regardless of the extent to which improvements could be directly attributable to the program (as opposed to self-selection).

A control group was available for evaluating the smoking cessation program, namely the group of smokers who were not randomly selected as eligible for the program. If change in smoking among those who attended the company's program was caused solely by self-selection (that is, those who attended the program would have attended some other program and/or would have quit anyway), then the rate of quitting would have been the same for smokers eligible for the program as for those not eligible. Since the rate among those eligible was higher, this suggests that some change was due to the program.

Part 6. Economic Evaluation

> ***What was the cost to the company for each extra person quitting smoking as a result of the smoking cessation program?***

a. Who was asking the questions and why did they want the information?

The previous parts of the evaluation had found that a larger proportion of pre-test smokers who participated in the program had quit smoking, compared with pre-test smokers who were offered access to the program but did not participate. However, since some smokers quit without participating in the program, the **company** wanted to determine how many additional smokers quit as a result of the program, and what it cost the company for each of these extra quitters. This information was needed to help the company decide whether to make the program available to the other half of the smoking employees who had not been selected in the initial phase.

Information had already been collected on the pre- and post-test smoking status of all employees. However, it was necessary to estimate the costs to the company of providing the smoking program.

b. What resources were needed to collect and interpret the information?

As the required information concerning the quitters in both the selected and unselected smokers groups had been collected and entered in the computer, only cost information remained to be collected. In order to estimate program costs the work-force health co-ordinator obtained from the accounting department the total billings from the fee-for-service program leader, and from the human resources department the company's average cost per employee-working hour (after adjustment of the normal cost per employee-hour for statutory holidays, vacation, paid sick time, other benefits, paid breaks, and staff training). The work-force health co-ordinator also obtained from the smoking program leader a record of the total number of employee sessions provided (i.e., the sum for all sessions of the number of employees participating).

c.   *How were the data collected?*

All information required for pre- and post-test smoking status had been collected previously during the initial and follow-up surveys; this included information on whether or not the employee had participated in at least one session of the program. This information had also been keypunched and entered into the computer database.

The total number of employee-sessions provided by the smoking program was collected by the program leader. The adjusted employee cost per hour was calculated by the human resources department from the company's payroll expenditure reports. The fee-for-service billings were taken directly from the accounting department's general ledger.

d.   *How were the data analyzed?*

The difference in proportion of quitters was calculated for the smoker groups selected as eligible and not eligible for the smoking cessation program.

The cost of the smoking program to the company was estimated as the sum of the external program leader's fee-for-service billings plus the cost of the 30 minutes of employee time for each occasion an employee attended a program session. The employee time cost was calculated as the product of the total number of employee-sessions provided x 0.5 hrs x the estimated adjusted employee cost per hour. The cost of program materials was included in the fee-for-service billings, and zero cost was assigned for space because the room used for the program sessions would have otherwise remained unused.

The mean cost to the company per employee with access to the program was calculated by dividing program cost by the number of employees in the group offered access.

The cost to the company per extra quitter achieved by the program was estimated by dividing the mean cost per employee with access to the program by the difference in proportions of quitters in the groups with and without access.

e.   *What did they find out?*

As described in Parts 4 and 5, 78 of the 572 smokers who were eligible for the smoking cessation program and completed both pre- and post-test data collections had quit smoking at post-test, i.e., the proportion of quitters was 0.14 (see Table 1.) As shown in Table 1, the proportion of post-test quitters in the group not eligible for the smoking program was 21 of 564 or 0.04. Therefore, the difference between the groups in proportion of quitters was 0.10.

The costs to the company of the smoking cessation program are shown in Table 2. The total cost of making the program accessible to the 710 employees who were originally selected as eligible for the program was $68,115 (i.e., a mean cost per selected employee of $95.94). It is assumed that zero cost was incurred for the unselected group.

Accordingly, the cost per extra quitter achieved by the smoking program was estimated at $95.94 ÷ 0.10 = $959.40.

Table 1.   Quitting Rate of Employees Selected as Eligible for the Smoking Cessation Program Compared to Employees Who Had Not been Selected

	Employees eligible for smoking cessation program	Employees who were not eligible for smoking cessation program
number of smokers who quit smoking	78	21
number of smokers who continued smoking	494	543
proportion of smokers who quit	0.14	0.04

Note: These figures include only those smokers who participated in both the pre-test and post-test.

Table 2. Cost to the Company of the Smoking Program

Cost Element	Cost
Fee-for-service billings	$35,000.00
Employee time cost: 2,236 employee-sessions x 0.5 x $29.62/hr	$33,115.00
Total Cost	$68,115.00
Mean cost per employee originally selected as eligible for the program (n=710)	$95.94
Estimated cost per extra quitter achieved by the smoking program: $95.94 ÷ 0.10	$959.40

(f)   *How were the results used?*

Although the program was successful in helping employees quit smoking, the cost to the company was fairly high. To reduce costs but still maintain the program, the company decided to offer the smoking cessation program outside of work hours (thus saving employee time costs). Since this change might well reduce the success rate of the program, the company would continue monitoring the program for another year (offering the program to only half of the employees).

Methodological, measurement and ethical issues:

Measurement. In this example, costs were calculated only from the company's perspective and only using basic cost estimates. In particular, benefits are not calculated as potential cost-offsets for the company. For example, employee time costs are based on time away from the job to attend the smoking cessation program. However, if quitting or reducing smoking resulted in fewer sick days, the net time away from the job for those who attended the program might be somewhat less (and, correspondingly, the costs to the company for the program would be less).

While this example focused only on the costs to the company of the program, a broader economic evaluation might take into consideration other costs and benefits, such as the cost of buying cigarettes by employees who continue to smoke, reduced heath care costs for those who quit smoking, losses in taxes from employees who quit smoking, and so on.

E. Community-Based Needs Assessment for Health Promotion

Note: This example involves the collection and analyses of a lot of data. These analyses are not reported in detail as this type of project should only be undertaken by persons or groups who have access to design and analysis expertise. The example is provided to show the general approach to community level needs assessment for health promotion programming.

Program: Within the field of health care, there has been a shift in emphasis from the traditional treatment and/or rehabilitation oriented approach to one of health promotion and prevention. Health care providers, public and private funding organizations and research driven investigations are giving more attention to health promotion as an important aspect of overall health care provision. In Ontario, the Premier's Council on Health Strategy adopted the World Health Organization's definition of health as not only the absence of disease, but also as a positive resource that allows people to cope with, adapt to, and influence the pressures of daily living. This council has also identified health promotion as a major goal.

Health promotion focuses on the development of good health and healthy lifestyles rather than health problems. It is meant to develop, maintain and enhance levels of health, and at the same time, reduce health problems. Important factors contributing to the process of health promotion and healthy lifestyles are personal responsibility, structural arrangements in society, economic conditions, and socio-cultural practices. When these are related specifically to substance abuse, the dynamic interactions between the drug, the person and the environment influence the reduction of substance abuse problems and the promotion of health in society.

Corresponding to the shift in emphasis from a treatment orientation to a health promotion orientation, local communities are being recognized as major influences and important contributors to the promotion of better health and healthy lifestyles.

In order to plan health promotion programs, systematic data collection regarding the characteristics of the community is useful. This involves addressing the following kinds of questions. Who lives there? What do they do? What are their perceptions of community needs and present services? Which health-related areas are most in need of attention? What is the social, cultural, economic and demographic make-up of the community? Are there important questions that must be addressed prior to any actual program planning and implementation? In other words, a needs assessment is necessary to learn the facts and opinions about the community's current health status before taking action.

When possible, it is better to use several different sources of data in a needs assessment to ensure greater validity. The community-based needs assessment used in the present example shows one approach. Taken together with other information sources such as census data, social indicators, service utilization and formal interviews, the community needs assessment helps provide a clear overview of the community which can be used to guide the development of health promotion programs. The results of the survey provide the health promotion planner with information regarding the range of local attitudes, norms, and perspectives on alcohol and other drug problems, as well as on social problems in general. In addition, the survey can measure the respondent's awareness of what available resources are in the community.

Ideally, the community needs assessment provides preliminary insights into the perceived characteristics of alcohol/drug users, particularly those users who are at risk for current or future problems. These assessments should also point to the individual, group and community-level factors that are important to the process of health promotion in the community, and show the extent to which these various factors are interrelated. At the broadest level, the needs assessment should provide a reflection of local environments and institutional constraints that must be taken into account in achieving health promotion goals.

The present needs assessment involved face-to-face interviews with over 200 community residents. It was undertaken as the first step in program planning, to help build appropriate policies and programs for alcohol and drug-related issues. The needs assessment was also to be used to provide information that would help promote the accessibility of the resources available in the community, including new services, existing services, and informal networks.

This example includes quality enhancement questions at one level of evaluation:

Part 1.   Needs Assessment.

> Level of difficulty: difficult
> Level of resources needed: heavy

Part 1. Needs Assessment

> *From the perspective of the community:*
>
> *What are the major problems facing the community with respect to alcohol and drugs?*
>
> *Who should be the primary targets of health promotion programs directed at alcohol and drug use?*
>
> *What new health promotion programs should be developed and/or implemented to prevent problems related to alcohol and/or drug use?*

a.   *Who was asking the questions and why did they want this information?*

The **District Health Council** conducted the needs assessment in order to obtain current information regarding the community. This information was to be used directly in planning new health promotion programs for preventing problems related to alcohol and/or drug use.

b.   *What resources were needed to collect and interpret the information?*

Human resources were required to conduct face-to-face interviews with 200 randomly chosen representative community members and 20 key informants who worked in the community. Ten community members were hired, trained and provided with a list of addresses to visit. Additional resources were required to print copies of the questionnaire. A staff member of the District Health Council spent nine hours a week for three months training and co-ordinating the interviewers, organizing data entry, and analyzing the data. A computer and software were required for analyzing the data.

c.   How were the data collected?

Ten community members conducted face-to-face structured survey interviews with 220 respondents, including 20 key informants. The completed surveys were returned to the District Health Council.

d.   How were the data analyzed?

The completed surveys were coded and the information was entered on the computer and analyzed using a statistical software package. Frequency distributions and correlations were computed to identify patterns that could serve as the basis for recommendations.

e. What did they find out?

Respondents expressed numerous positive feelings and perceptions about their community. They felt the community was safe, that members cared about the community, that there were numerous social and recreational activities available, and that their immediate neighbourhoods were clean and safe for children. However, they also felt that there was a great deal of apathy and a lack of strong community leadership. They indicated that they would like to see a more active police presence in the community, particularly with respect to the enforcement of alcohol and drug policies.

Even though community members and key informants felt that drug use in the community was a problem, they seemed to place a greater emphasis on alcohol use. Although respondents felt that most groups were appropriate targets for interventions, most felt that youth aged 12 to 18 and young adults should be the primary recipients of drug and alcohol prevention activities and programs.

f.   How were the results used?

The following outlines the initial plans for health promotion and prevention programs that resulted from the needs assessment. These programs follow a model that focuses on strategies and goals for health promotion activities targeted toward the person, the drug and the environment. The kinds of strategies that can be utilized to improve the health status of community members include influence, control, competence development, and environmental design. The goals of the model are health enhancement (to increase the person's desire to abstain and/or control their drinking), risk avoidance (to maintain the person's low level of use), and risk reduction (to reduce the person's use before health or social problems develop).

The primary group that was targeted were young people between 12 and 18 years of age. Programs that were recommended for development and/or implementation included the following:

- providing activities that would interest young people and would provide alternatives to alcohol and other drug use;

- advocating and working with the school boards in the community to develop and implement an alcohol and drug policy that would include the components of education, early identification and discipline; and

- providing programs for families that would serve to complement and reinforce the messages and programs young people were being exposed to outside the home.

A secondary target was the community in general. The following recommendations were designed to provide potential solutions to the problems in the community as a whole and to raise community awareness in order to make the proposed programs more acceptable:

- publicize the existence of services within the community;

- advocate with the municipal politicians to develop and implement a municipal alcohol policy that governs the sale and distribution of alcohol in municipally owned facilities; and

- implement a server intervention program in licensed facilities to ensure that alcohol is served responsibly and appropriately, which would include identifying and not serving under-age patrons.

At the present time a number of steps have been taken. In the case where existing programs are available (e.g., server training, school policy), work has begun in order to implement these programs. Other recommendations such as the family program and the alternative activities for youth are being discussed and reviewed. It is anticipated that it will take about two years to implement the first series of recommendations. At that time, another needs assessment should be conducted to determine whether changes have occurred in the community, whether the programs that have been implemented have begun to have an effect, and what new programs should be considered.

Methodological, measurement, and ethical issues

Methodological. One key to a valid needs assessment is the selection of respondents for the survey. In order to ensure that the sample is representative of the entire population, a random selection procedure was implemented using the voter registration list as the sample pool.

Measurement. In order to ensure that questions on the survey were understandable and acceptable to respondents, the instrument was pilot-tested with a variety of community representatives, and problematic questions were revised or removed.

Ethical. Because sensitive questions were included on the questionnaire, it was important to ensure confidentiality. No names were recorded, and records as to which addresses were approached were destroyed after the representativeness of the sample was determined. In addition, no one under the age of 18 was asked to respond, and all respondents were free to refuse to answer a question or terminate the interview at any point. Finally, because the survey was intended to cover the entire community, and interviewers had to enter houses to conduct the interviews, interviewers were potentially at risk. Interviewers were told to tell respondents about the intent of the study, and that they were part of a survey team in the area. In addition, if they felt at all ill-at-ease about doing interviews in a particular neighbourhood, they were told to go in teams or to exclude specific houses where they felt they would be put at risk. No problems regarding the safety of interviewers were encountered.

F. An EAP Counselling Program

Program: The program is an off-site service available to 1,074 employees. Of this number, 392 are highly skilled staff. In supporting the EAP, the management was concerned about addressing substance abuse and other problems among skilled employees in particular, because these employees are more costly to train and more difficult to replace than unskilled employees.

Employees and their families may use the EAP for a variety of problems. The services available are individualized short-term counselling, case management, crisis intervention, and referral for additional services. Some employees are encouraged to attend the EAP by their supervisors, while others use the services on their own.

The program was initially set up to address alcohol or drug-related problems in the workplace, but currently addresses a variety of personal and work-related problems experienced by employees.

This example includes quality enhancement questions for four levels of evaluation:

Part 1. **Client Characteristics**

Part 2. **Program Delivery**

Part 3. **Client Satisfaction**

Part 4. **Client Satisfaction by Program Delivery.**

Part 1. Client Characteristics

To what extent was the EAP used by skilled employees?

What proportion of employees using the EAP addressed personal, work-related, and/or substance abuse issues?

a.   Who was asking the questions and why did they want this information?

The EAP was developed to help employees address problems that might be affecting their work. Since skilled employees are generally more valuable to the company, the **company managers** were particularly interested in determining the extent to which the EAP was being used by skilled employees.

Therefore, the first consideration of this evaluation was to determine the percentage of skilled staff who used the EAP. The company was also interested in knowing the nature of problems for which employees sought help. Specifically, they wanted to determine the proportion of employees who were addressing either personal, work-related, or substance abuse issues. Analyses of the types of problems reported by employees attending the EAP would be useful for ensuring that EAP counsellors had appropriate training for addressing the most frequent problem areas.

b.   What resources were needed to collect and interpret the information?

The information necessary to address these questions was collected routinely during the EAP users' intake interviews. An EAP staff person spent eight hours reviewing case files, organizing and analyzing the information, and writing a report.

c. *How were the data collected?*

The EAP counsellor conducted a comprehensive assessment at intake, including obtaining the information needed for the present analyses. The designation of skilled/unskilled was part of the employee's job code in company records. During assessment, the employee and the counsellor together identified the problems to be addressed. This assessment included identifying the most important problem for which the employee was using the EAP. Only the primary problem was used in the data analysis.

d. *How were the data analyzed?*

The information was entered in the computer using EPI INFO (see Appendix A). The percent of skilled versus unskilled employees using the EAP and the proportions of people using the EAP for various reasons was calculated overall and by category (i.e., skilled/unskilled) of employee.

To illustrate the results, graphs were prepared using Harvard Graphics (see Appendix C).

e. *What did they find out?*

One hundred and thirty-three (12%) employees used the EAP services in the first 24 months of the contract. Fifty-eight (44%) were designated skilled and 75 (56%) unskilled. Since there were 392 employees designated skilled and 682 designated unskilled in the company, these numbers indicate that the EAP was used by 15% of all skilled employees and 11% of all unskilled employees. A series of pie charts (prepared using Harvard Graphics) indicating the percent of skilled versus unskilled employees using the EAP is shown in Figure 1.

As shown in Figure 2 and Table 1, the most frequent primary problems for which employees attended the EAP were work-related issues and alcohol and drug use by self. Reasons for using the EAP, however, differed between skilled and unskilled employees. Skilled workers tended to be more likely than non-skilled workers to address personal substance abuse problems. Non-skilled employees tended to be more likely to seek help for workplace problems.   (See Table 1 for detailed results and Figure 3 for a bar graph display.)

Within job-related problems, some of the specific issues addressed were: job stress, sexual harassment, conflict with supervisors, conflict with co-workers, and too much work/responsibilities.   "Other" problems included emotional health, physical health, sexual assault, and legal problems.

Figure 1. Utilization of EAP by Skilled and Unskilled Employees

Skilled
(392) 36%

Used EAP
(58) 15%

Used EAP
(75) 11%

Did not
use EAP
(607) 89%

Did not use EAP
(334) 85%

Unskilled
(682) 64%

Use of EAP by unskilled employees

Use of EAP by skilled employees

% skilled and unskilled employees
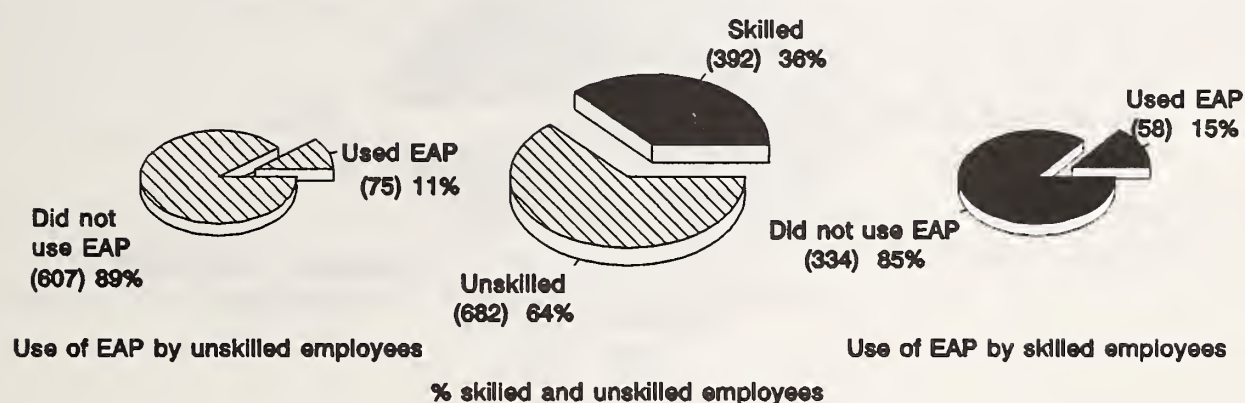
Table 1.   Primary Problem Addressed by Skilled and Unskilled Employees Who Attended the EAP

Problem addressed	Skilled employees n=58		Unskilled employees n=75		All employees n=133	
alcohol/drug use - self	22	(38%)	14	(19%)	36	(27%)
- other	6	(10%)	7	(9%)	13	(10%)
work-related issues	15	(26%)	28	(37%)	43	(32%)
personal problems - family	9	(16%)	11	(15%)	20	(15%)
- financial	3	(5%)	9	(12%)	12	(9%)
other	3	(5%)	6	(8%)	9	(7%)

Figure 2. Primary Problem Addressed by Employees Who
Attended the EAP

Alcohol/drug use other
(13) 10%

Alcohol/drug use self
(36) 27%

Job related issues
(43) 32%

Other
(9) 7%

Personal - financial
(12) 9%

Personal - family
(20) 15%
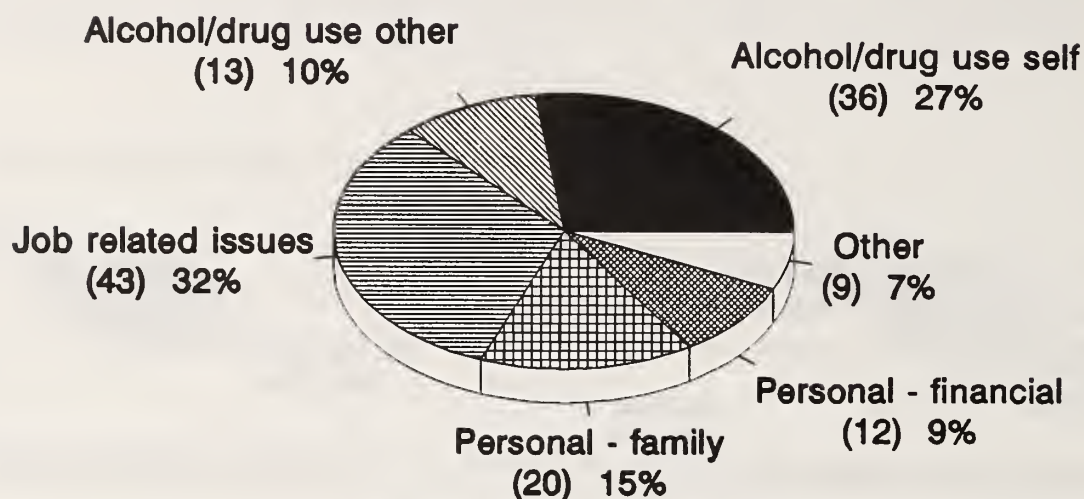
Figure 3. Primary Problem Addressed by Skilled and Unskilled
Employees Who Attended the EAP

% of employees addressing the issue

Issues addressed   0%   10%   20%   30%   40%   50%

Alcohol/drug use self   38% / 19%

Alcohol/drug use other   10% / 9%

Job related issues   26% / 37%

Personal - family   16% / 15%

Personal - financial   5% / 12%

Other   5% / 8%

■ Skilled employees ▨ Unskilled employees
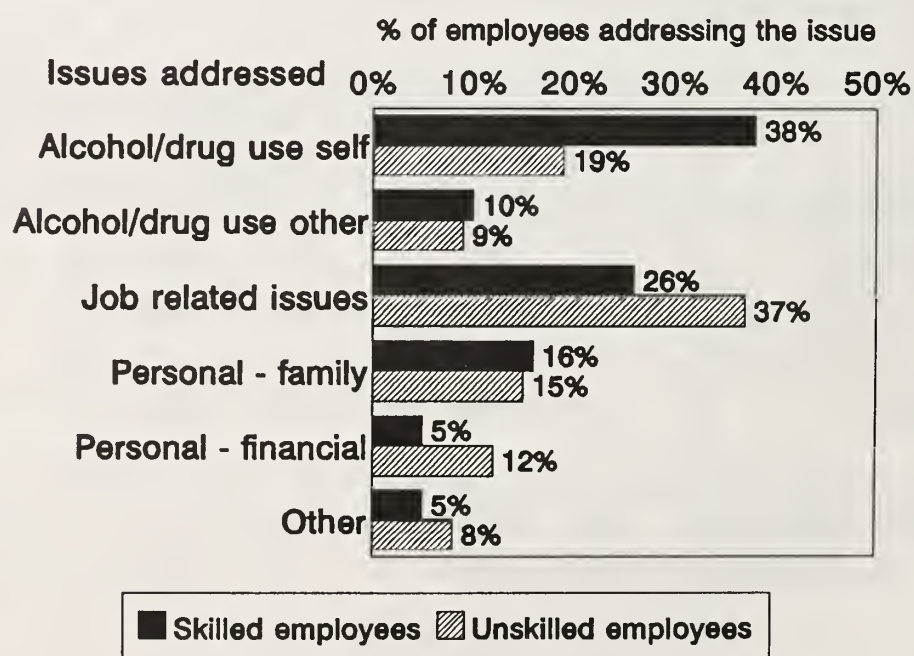
f. How did they use the results?

This part of the evaluation addressed two main concerns: assessing the use of the EAP by skilled employees and identifying the nature of the problems addressed by the EAP in order to plan future services.

The results demonstrated that skilled employees used the EAP at least as often as unskilled employees. These findings showed that the EAP was meeting one of its main goals.

The most prevalent problems for which employees came to the EAP were substance abuse and job-related issues. In view of this, the company is working with the EAP to develop an in-house "Workplace Wellness" program which focuses on low-risk drinking, substance abuse prevention, and job-related stress.

Finally, while addressing the two quality enhancement questions, the company managers also observed that the high rate of overall use of the EAP (12% over two years) suggested that the program was both acceptable and accessible to the employees.

> Level of difficulty: easy
> Level of resources needed: minimal

Part 2. Program Delivery

> ***What were the main presenting problems for which referrals were made to supplement EAP services?***

a.   Who was asking the question and why did they want this information?

The EAP was set up to provide short-term counselling, case management, crisis intervention, and referral services. Some problem areas required more specialized services than the EAP offered. Clients identifying such problem areas were referred to other community resources for further services. The **company** asked the EAP to monitor referrals in order to examine the use of community resources. If trends were found among referrals, the company would consider inviting specialists to conduct noon-hour workshops for all staff.

b.   What resources were needed to collect and interpret the information?

The information necessary to address these questions was routinely documented in case files. The EAP secretary spent 20 hours reviewing case files, and gathering, organizing, and analyzing the information.

c.   How were the data collected?

All the information required was contained in the clients' files. The secretary reviewed each case file and tabulated the information required.

d.   How were the data analyzed?

The information was tabulated by hand.   Harvard Graphics (see Appendix C) was used to prepare a bar graph to illustrate the results graphically.

e.   *What did they find out?*

Forty-eight (36%) of the 133 employees who used the EAP were referred to community resources. Table 1 indicates the number of people referred elsewhere, grouped by the primary problem for which employees attended the EAP. Figure 1 shows the same information in the form of a bar graph produced using Harvard Graphics.

As shown in Table 1, the rate of use of other services was highest for those attending the EAP for personal substance abuse problems (67%). Overall, only about 25% of individuals addressing issues other than personal substance abuse were referred to services in the community.

Figure 1. Percent of Referrals to Community Agencies by Primary
Problem Addressed
by Employees Who Attended the EAP

% referred

Presenting problem	% referred
Alcohol/drug - self	67%
Alcohol/drug - other	38%
Work - related	12%
Personal - family	40%
Personal - financial	8%
Other	56%
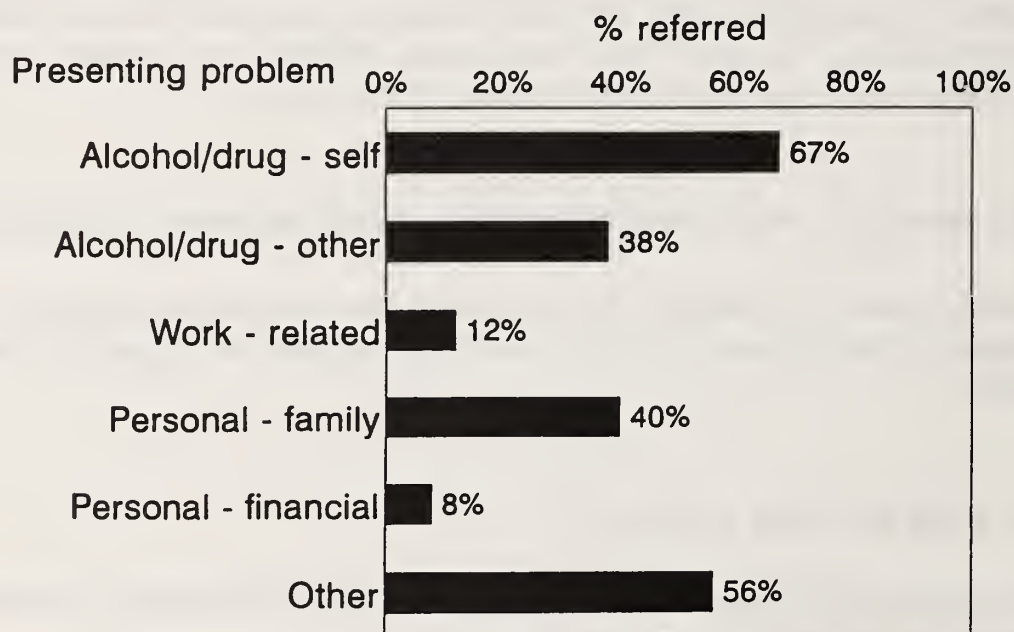
Table 1. **Numbers and Types of Referrals to Community Agencies by Primary Problem Addressed by Employees Who Attended the EAP**

Primary problem addressed at EAP	# and % of clients referred	Agency referred to (and # referred)	Reason for referral
alcohol/drug use - self (n=36)	24 (67%)	Treatment Centre A (5)	Inpatient treatment for substance abuse
		Community Addictions Treatment B (19)	Outpatient treatment for substance abuse
alcohol/drug use - other (n=13)	5 (38%)	Private Therapist (2) Family Counselling Centre (3)	Dealing with parental substance abuse throughout childhood
job related (n=43)	5 (12%)	Social Services Department, General Hospital (3)	Stress management group
		Human Rights Commission (2)	Sexual harassment in the workplace
family (n=20)	8 (40%)	Family Services (2)	Family counselling
		Adolescent and Youth Services (3)	Counselling for adolescent/ youth dependent
		Women's Interval Home (2)	Spousal abuse
		YMCA (1)	Parenting program
financial (n=12)	1 (8%)	Debt Counselling Centre (1)	Liaison with creditors
other (n=9)	5 (56%)	Private psychiatrists through family physician (2)	Depression, sleep disorder
		Canadian Mental Health Association (1)	Group therapy - emotional health issues
		Sexual Assault Centre (2)	Sexual assault outside the workplace
All problems (n=133)	48 (36%)		

f.   *How were the results used?*

The results demonstrated that the majority of the individuals using the EAP were not referred to other services. Most of the individuals who were referred to community resources for more intensive services were addressing personal substance abuse problems. This finding convinced the company to set up an in-house substance abuse prevention program. They have decided to ask for the involvement of treatment personnel from the local addictions agencies in the planning and implementation of the program.

Level of difficulty: moderate
Level of resources needed: heavy

Part 3. Client Satisfaction

To what extent did the employees find the EAP helpful?

To what extent were employees satisfied with the EAP?

To what extent did the employees feel that the EAP was confidential?

a.   Who was asking the questions and why did they want this information?

As an ongoing quality assurance measure, the **EAP** obtained feedback from clients regarding the helpfulness of the program and the extent to which clients were satisfied with the services they received. As well, the EAP was concerned with the degree to which the clients felt that the services were confidential.

b.   What resources were needed to collect and interpret the information?

One EAP counsellor was designated to spend about 100 hours over two years collecting and organizing the information required, analyzing the data, and generating a report.

c.   How were the data collected?

Each employee attending the EAP was asked at intake for permission to be contacted three months after termination or three months after the last counselling session between the employee and the EAP. The follow-up counsellor asked clients a series of questions about their satisfaction with and the helpfulness of the EAP services. The questions were rated on a five-point scale. The higher the score (out of 5), the more positively the client felt about the question. As well, additional comments were encouraged and recorded. The following is a sample question:

On a scale of 1 to 5, 1 indicating not at all helpful, and 5 indicating extremely helpful, how helpful did you find the individual counselling that you received?

Clients were asked to rate the helpfulness of four aspects of the program: intake, individual counselling, family/marital counselling, and referrals to other programs. They were also asked to rate how satisfied they were with: quality of service, amount of help received, and overall effectiveness of the program. Confidentiality was rated on a five-point scale from 1 - not at all confidential (e.g., "others found out information about me from the program"), to 5 - completely confidential (e.g., "felt secure that my involvement with the program was kept completely private").

d.   How were the data analyzed?

The information was entered in the computer and the average ratings for degree of satisfaction and degree of helpfulness were computed. Types of comments were also tabulated.

Bar graphs illustrating the results were prepared using Harvard Graphics (see Appendix C).

e.   What did they find out?

The follow-up counsellor was able to contact 128 of the 133 individuals who had used the EAP services over the first 24 months of the contract. Table 1 summarizes the helpfulness ratings of the different types of services provided by the EAP. Table 2 shows the results of the satisfaction ratings of various aspects of the services provided. The ratings are presented using a different format (bar graphs using Harvard Graphics) in Figures 1 and 2.

The results indicated that clients found the EAP to be mostly helpful. All services except intake received an average rating of 4.0 or higher, indicating a high level of perceived helpfulness.

With regards to client satisfaction with the EAP, the results indicated that clients were generally satisfied with the service. Clients were generally satisfied with the quality and effectiveness of the service, but were less satisfied with the quantity of the services available.

Finally, the results indicated that clients perceived the EAP to be very confidential.

Table 1. **Helpfulness Ratings of the Different Types of Services Offered by the EAP and Examples of Comments Made**

Type of service received	Average rating	Examples of comments
intake (n=128)	3.6	• didn't like changing counsellors after the first session • really helpful – was all I needed
individual counselling (n=103)	4.4	• the counsellor helped me a lot • the counsellor made me feel really comfortable • the counsellor really understood me • the counsellor made me feel like an idiot
family/marital counselling (n=17)	4.2	• counsellor shouldn't have seen my husband and I together, as I would have preferred being seen separately • counsellor let my kids control the session
referral to other programs (n=47)	4.0	• it was just what I was looking for • it wasn't quite what I was looking for and I had to go somewhere else • wish I didn't have to go see someone else – not enough sessions with the EAP counsellor

Other comments made were:

- it was really nice that someone called to see how I was doing (follow-up)
- I wish I could have gone back once or twice after I stopped going on a regular basis, just to have a little extra support
- we should have had one of these programs years ago
- there are a lot of people at work who don't know about this
- the counsellor I saw told me more about his problems than he listened to my problems.

Table 2.   Satisfaction Ratings of Aspects of Services and Examples of Comments

Aspect of service rated	Average rating (n=128)	Examples of comments
quality of the service	4.2	• better than expected • this guy shouldn't be doing this kind of work - he has more problems than I do
amount of help received	3.2	• counselling finished just when I felt comfortable with the counsellor • should have been able to have more sessions
overall effectiveness of the program	4.2	• the program was really helpful • I didn't know a lot of the information the counsellor gave me • I would recommend the program to others • we should have had one of these programs years ago
confidentiality	4.7	• it was very important that the office was in a different part of town than work • it was really important that no one at work would know I was coming here • it was important that not even my family would know why I was coming here • I hardly told the counsellor anything because I wasn't sure that he'd keep it to himself

Figure 1. Helpfulness Ratings of the Different Types of Services Offered by the EAP

Average rating (out of 5)

Rating category

Intake — 3.6
Individual Counselling — 4.4
Family/Marital — 4.2
Referral — 4
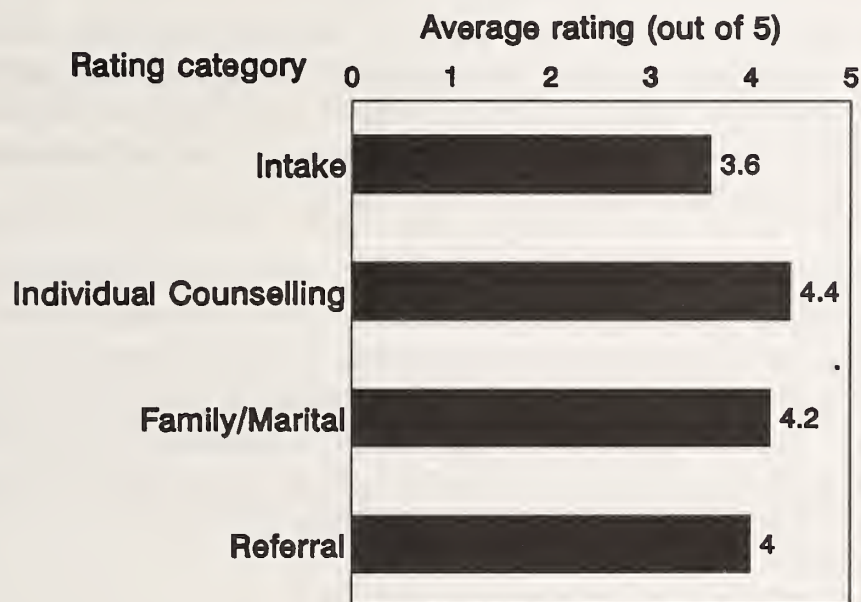
Figure 2. Satisfaction Ratings of Different Aspects of the Services Offered by the EAP

Average rating (out of 5)

Rating category

Quality of service — 4.2
Amount of help — 3.2
Overall effectiveness — 4.2
Confidentiality — 4.4

EAP Counselling Program
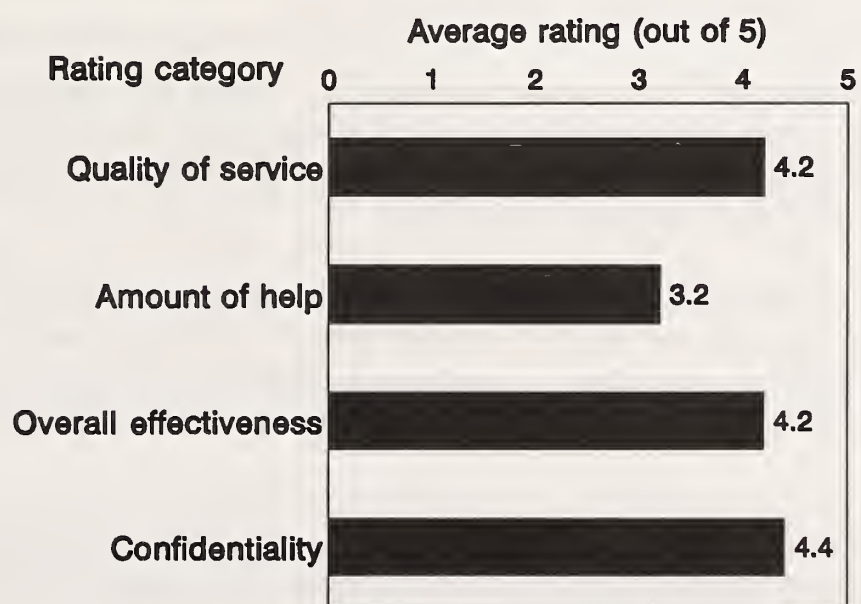
f.   How were the results used?

Many of the additional comments made were positive and helpful. The EAP made some adjustments in their procedures as a result of some of the comments. In particular, it was decided that the intake worker would assess clients with a brief screening interview at the initial telephone contact. Clients would then be assigned to an appropriate counsellor who would complete the full assessment with the client as well as any additional sessions needed. This eliminated the need to deal with more than one counsellor. As well, a follow-up component was made a standard part of the service.

The negative comments addressed two main concerns: the limited amount of service available and the attitude and integrity of one of the counsellors. The counsellor who had been perceived negatively by a number of clients met with the manager of the EAP regarding job performance. The counsellor had only recently entered the counselling field and had come to the conclusion on his own that he was not well-suited to the job. The feedback from clients confirmed his perceptions, and he resigned voluntarily to pursue another line of work. To address the issue of the amount of service available, the company agreed to extend the maximum number of sessions from four to six.

Methodological, measurement, and ethical issues:

Methodological. In this example, follow-up contact was done by telephone since this would probably elicit a higher rate of response than would have been achieved using mailed-out questionnaires. Another benefit of a personal interview, face to face or by telephone, is that additional comments and suggestions can be encouraged.

There were also drawbacks to telephone interviewing. People are somewhat more likely to rate services positively when interviewed personally, as this type of information is not completely anonymous. A mailed questionnaire can be completely anonymous, and so people are more likely to indicate their true thoughts and feelings.

For the purposes of this evaluation, the EAP chose to contact people by telephone as they felt that the higher rate of response and the increased amount of feedback would outweigh the risk of positive bias. In addition, the follow-up worker was instructed to emphasize with clients that the program was interested in their honest responses and that names would not appear with any questionnaire.

Measurement. The use of a five-point scale, rather than yes/no ratings, allowed clients to more accurately indicate the degree to which they found the program helpful, satisfactory, and confidential.

Level of difficulty: moderate
Level of resources needed: moderate

Part 4. Program Delivery by Client Satisfaction

What proportion of clients followed through on referrals to different community agencies?

How satisfied were clients with services received from community agencies to which they had been referred by the EAP counsellor?

How helpful did clients find the services to which they had been referred?

To what extent did the community agencies report that the referrals to them had been appropriate?

a.   Who was asking the questions and why did they want this information?

An earlier evaluation had examined the community resources to which referrals were made to supplement EAP services (see Part 2). The **EAP provider** wanted to determine the proportion of clients who used the services of the community agencies to which they had been referred. As well, the EAP provider was interested in the clients' level of satisfaction with those services. Finally, the EAP provider felt that it was also important to assess the agencies' perceptions of the appropriateness of the referrals made to them by the EAP. Thus, in the next year of operations, the EAP provider instituted a plan for monitoring referrals.

b.   What resources were needed to collect and interpret the information?

The information necessary to address these questions was collected routinely during the follow-up telephone interview with the client. In addition, as part of the referral procedure, a follow-up telephone call was made to the community resource to which a referral had been made. A staff person of the EAP spent eight hours reviewing case files, organizing and analyzing the information, and writing a report.

c.   *How were the data collected?*

Clients were routinely contacted for a follow-up telephone interview with the EAP follow-up worker three months after the contact between the client and the EAP. Prior to conducting a follow-up interview, the follow-up worker reviewed the client's case file in order to determine whether a referral had been made to an outside resource. Clients for whom a referral had been made were asked the following: whether they had attended at least one appointment at the agency to which they had been referred, whether they found services from that agency generally helpful, whether they were generally satisfied with the service they received, and the extent to which they felt that the referral was appropriate for them. The latter three questions were asked on a five-point scale.

When a referral was made to an outside resource, the EAP requested that clients sign a release of information form that would allow the EAP to exchange information about the client with the agency to which he or she had been referred. At the time of the referral, the EAP counsellor made note of the scheduled appointment. Within one week following the scheduled appointment, the EAP counsellor contacted the agency to which the referral had been made in order to find out if the client attended, and whether the agency saw the referral as appropriate.

d.   *How were the data analyzed?*

Responses from the client follow-up and the agency follow-up were tabulated by hand.

e.   *What did they find out?*

Thirty-one clients were referred to other agencies for further services. Of these, two people refused to give consent to any release of information by the EAP to the agency or vice versa, and one person consented only to the EAP releasing information to the agency about the client, but did not consent to a reciprocal release of information. Therefore, agency follow-up contacts were made for only 28 of the 31 referrals.

Follow-up interviews were completed with 30 of the 31 clients who had been referred elsewhere. The one person who could not be located at follow-up had also refused to sign a release of information; therefore, no information was available regarding whether this person followed through on the referral. Of the 30 clients who had been referred elsewhere and who participated in the follow-up interview, 26 (84%) reported that they had attended at least one appointment with the agency to which they had been referred. Follow-up data from the agencies indicated, however, that there was no agency record confirming attendance at the program by two of the people who said they had attended at least one appointment. Therefore, the ratings of the

satisfaction, and appropriateness of referrals are shown in Table 1, based on the 24 cases included in the analyses.

Table 1.   **Ratings Made by Clients Who Attended at Least One Appointment at the Agency to Which They Had Been Referred**

	Average Rating
helpfulness of services received from outside agency	4.2
satisfaction with services received from outside agency	4.0
how appropriate the client felt the referral was	4.3

For the four individuals who reported that they did not attend at least one appointment, the following reasons were reported: one individual was referred to outpatient addictions treatment but decided to attend AA and try to quit drinking/drug using without formal outpatient treatment; one individual was referred to an inpatient addictions treatment program but did not abstain from drug use for the required length of time prior to the scheduled appointment, and so did not attend; one individual referred to the Women's Interval Home decided to return to her husband; one individual was referred to Adolescent and Youth Services for counselling for dependent children, but the child refused to attend.

Of the 28 clients for whom follow-up contact was made with the agency to which they had been referred, 24 were confirmed as attending at least one appointment. Responses from the agency indicated that 21 (88%) of these referrals were considered appropriate.

f. How were the results used?

Most clients who were referred elsewhere for further services reported that they attended at least one appointment at the referral destination. Clients were generally satisfied with the services they received from outside referrals and they found the services helpful.

The agency follow-up records confirmed that most clients followed through on referrals and that most referrals were appropriate. The four referrals that were considered inappropriate were discussed at a staff meeting so that similar mistakes would not be made in the future.

The numbers were too small to calculate satisfaction ratings with the different types of agencies to which clients were referred. The EAP provider decided to continue to monitor satisfaction with referrals as part of regular follow-up in order to identify those agencies for which clients gave the highest ratings.

Methodological, measurement, and ethical issues

Ethical. Inter-communication between agencies regarding specific clients required that a release of information be granted by the client.

G. A Community Support Program for Immigrant Women

Program: This is a two-year pilot program designed to provide practical and emotional support to women in the community who have arrived in Canada during the past five years. The program is targeted primarily at women who are socially (or physically) isolated from the broader community and who may be at risk of substance abuse, particularly prescription drug abuse. The program is located in a city where knowledge of English is necessary to function independently.

The program components include: providing information and assistance to clients who might wish to enrol in English as a Second Language (ESL) training, assistance in locating suitable employment, a support group where participants discuss problems relating to their experience as immigrants (including problems relating to prescription drug use), assistance in linking participants to ethnic clubs/organizations in the community, and an awareness and information program designed to improve access to and use of community helping agencies (including those focusing on substance use).

The impetus for the program comes from research findings indicating that moving to a new country often leads to increased social isolation which in turn can lead to elevated levels of stress and substance use. Immigrant women are particularly vulnerable to abuse of prescription drugs such as sedatives and tranquilizers. On average, they have lower levels of education than male immigrants, are less likely to have paid employment, are less likely to have close friends or relatives in the host country, and are less likely to speak English.

This example includes quality enhancement questions for three levels of evaluation:

Part 1.   Logic Model

Part 2.   Client Characteristics

Part 3.   Outcome Evaluation.

Part 1. Program Logic Model

Program Logic Model for a Community
Support Program for Immigrant Women

MAIN COMPONENTS	SUPPORT GROUP	ENGLISH AS A SECOND LANGUAGE (ESL) REGISTRATION	JOB PLACEMENT	ETHNIC LIAISON	COMMUNITY SERVICE LIAISON
	↓	↓	↓	↓	↓
IMPLEMEN-TATION OBJECTIVES	To provide counselling and support to participants experiencing problems related to immigrating	To help obtain ESL training, if needed	To help find suitable paid employment, where appropriate	To encourage participants to obtain support from ethnic clubs/organizations	To link participants with appropriate help in the community, where appropriate
	↓	↓	↓	↓	↓
OUTPUTS	# of participants attending group # of group hours	# of participants enrolled in ESL training	# of participants counselled regarding employment # of referrals made for job interviews	# of participants linked to ethnic clubs or organizations by program staff	# of participants referred to other agencies # of participants advised of available services
	↓	↓	↓	↓	↓
SHORT-TERM OUTCOME OBJECTIVES	To reduce stress and increase coping ability	To increase knowledge and use of English	To increase the number of employed immigrant women	To build and strengthen supportive ties with ethnic group members	To increase know-ledge and use of services provided by community and other agencies
	↓	↓	↓	↓	↓
OUTCOME INDICATORS	# of participants who reported reduced stress. # of participants who reported increased ability to cope with stress	# of participants who improved in use of English	# of participants who obtained paid employment	# of participants involved in ethnic clubs/ organizations	# of participants using agencies

LONG-TERM OUTCOME OBJECTIVES

To reduce social isolation among immigrant women in the community
To prevent or reduce substance abuse among immigrant women in the community

↓

LONG-TERM OUTCOME INDICATORS

Decreased proportion of recently-immigrated women in the community who feel socially isolated
Decreased level of substance abuse among recent female immigrants in the community

Part 2. Client Characteristics

To what extent did refugee women differ from non-refugee women in terms of social isolation, use of sleeping pills and tranquilizers, and other factors that might affect their adjustment?

a. Who was asking the question and why did they want this information?

The program had been designed to address the needs of immigrant women generally, with no particular emphasis on immigrant refugee women. However, over the course of the two-year period prior to the program beginning, the community had absorbed a sizable influx of refugees. Thus, a fairly large proportion of program participants were refugees. Program staff had observed that refugee women who attended the program seemed to have greater problems adjusting than women who immigrated to this country for other reasons. In particular, many of the refugee women had suffered political persecution in their homeland, had been deprived of their home and personal possessions, had lost contact with family and friends, had witnessed the murder of a family member, and often had been severely beaten and tortured.

Because of these factors and the involuntary nature of their move, **program personnel** wondered whether refugee women compared to other immigrant women were significantly less educated, had less knowledge of English, and had fewer contacts with individuals and organizations in the community. Similarly, it appeared likely that refugee women would be more at risk for abuse of sleeping pills and tranquilizers because of past trauma as well as current isolation.

If refugee women were found to be considerably more socially isolated and more likely to use psychoactive prescription drugs than non-refugee women, the program might need to be adjusted to meet their special needs. In particular, refugee women might need additional counselling and other services. In planning the program for the next year, consideration needed to be given to the proportion of refugees in the target population in order to estimate the program's caseload capacity. Other adjustments to the program might also need to be made, especially in terms of helping refugee women deal with past trauma.

b.   *What resources were needed to collect and interpret the information?*

The outreach workers collected the information as part of intake. It took one staff member two days to enter the data on the computer, analyze the data and prepare a report.

c.   *How were the data collected?*

Outreach workers completed a short client intake form for each woman who became involved with the program. The intake form included the following information relevant to the present question: average length of time in country; whether the person lives alone; age; marital status (including whether living with spouse or partner); education level; number of contacts with friends or relatives (aside from spouse and children) in past month; and whether the person: speaks English, had paid employment in this country during the past 12 months, is affiliated with any ethnic club/organization, is aware of helping agencies, used helping agencies in last 12 months, used sleeping pills or tranquilizers during the past month, or used tranquilizers or sleeping pills daily or almost daily during the past month. The form also included the person's usual frequency of drinking during the past month, the number of times the person had consumed five or more drinks on any occasion during the past six months, and whether the person used illicit drugs during the past six months. (A sample intake form is provided at the end of this part of the Example.)

d.   *How were the data analyzed?*

The data were entered on the computer and the characteristics of program participants were calculated for all program participants, as well as for refugees and non-refugees separately. Frequencies and percentages were calculated for categorical variables and means for quantitative variables. The median (i.e., mid-point) was calculated for education level.

Characteristics of refugee and non-refugee participants are shown in graphs prepared using Harvard Graphics (see Appendix C).

e.   *What did they find out?*

As suspected by the program staff, refugee participants were more likely to be socially isolated and have less resources available to them (not living with spouse or partner, living alone, lower education, in the country slightly less time, less likely to have functional English, less likely to have had paid employment, less likely to belong to ethnic organization, and less likely to use helping agencies). (See Table 1 for detailed results and Figures 1 and 2 for a pie chart and bar graph showing graphic display of findings, prepared using Harvard Graphics.)

Table 1. **Characteristics of Refugee and Non-refugee Participants in the Community Support Program for Immigrant Women**

	Refugee n=60	Non-refugee n=140	All participants n=200
average age	32 years	37 years	36 years
married (lives with spouse)	30%	60%	51%
married (does not live with spouse)	30%	10%	16%
not married (single, separated, divorced, widowed)	40%	30%	33%
lives alone	40%	25%	30%
median education level	grade 7	grade 10	grade 9
average number of years in country	2.2 years	2.6 years	2.5 years
speaks English well enough to shop, work and socialize in English-speaking environment	30%	60%	51%
has had paid employment in this country during past 12 months	17%	50%	41%
belongs to an ethnic club or organization	20%	43%	36%
has used helping agencies during past 12 months	3%	15%	12%

Figure 1. Marital Status of Refugee and Non-refugee Participants in the Community Support Program for Immigrant Women

Married-w/spouse 30%
Not married 40%
Married-not w/spouse 30%
Refugee (n=60)

Married-w/spouse 60%
Not married 30%
Married-not w/spouse 10%
Non-refugee (n=140)
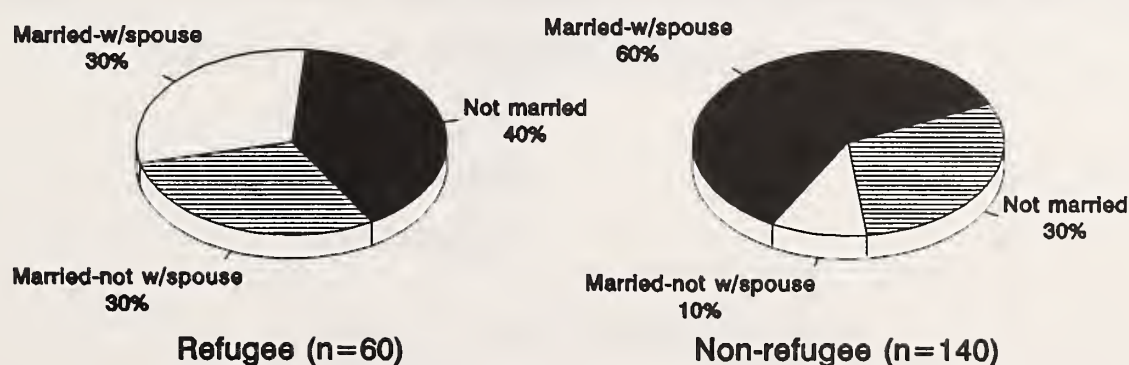
Figure 2. Characteristics of Refugee and Non-refugee Participants in the Community Support Program for Immigrant Women

Characteristics   Percentage of women

Characteristic	Refugee (n=60)	Non-refugee (n=140)
Lives alone	40%	25%
Functional English	30%	60%
Paid employment	17%	50%
Ethnic club	24%	43.5%
Aware of help	17%	36%
Used help	3%	15%

■ Refugee (n=60) ▨ Non-refugee (n=140)
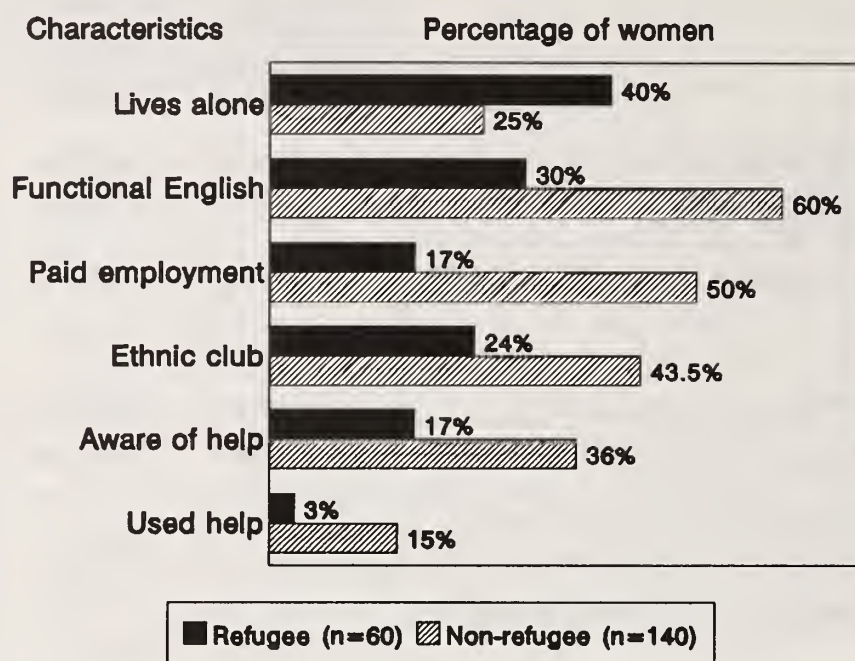
With regards to use of drugs and alcohol, refugee participants were more likely to use sleeping pills and tranquilizers than non-refugee participants, with 50% of refugee women who came to the program using tranquilizers or sleeping pills daily or almost daily. Alcohol and illicit drug use was low and did not differ greatly between the two groups (see Table 2 and Figure 3).

Table 2. **Drug and Alcohol Use by Refugee and Non-refugee Participants in the Community Support Program for Immigrant Women**

	Refugee n=60	Non-refugee n=140	All participants n=200
used tranquilizers and/or sleeping pills during past six months	60%	35%	43%
used tranquilizers and/or sleeping pills daily or almost daily during past month	50%	14%	25%
consumed any alcohol during past six months	60%	55%	57%
used both alcohol and tranquilizers and/or sleeping pills during past six months	43%	21%	28%
consumed alcohol daily or almost daily during past six months	5%	3%	4%
consumed more than five drinks on one occasion at least six times during past six months	3%	3%	3%
used illicit drugs during past six months	2%	0%	<1%

Figure 3. Drug and Alcohol Use by Refugee and Non-refugee Participants in the Community Support Program for Immigrant Women
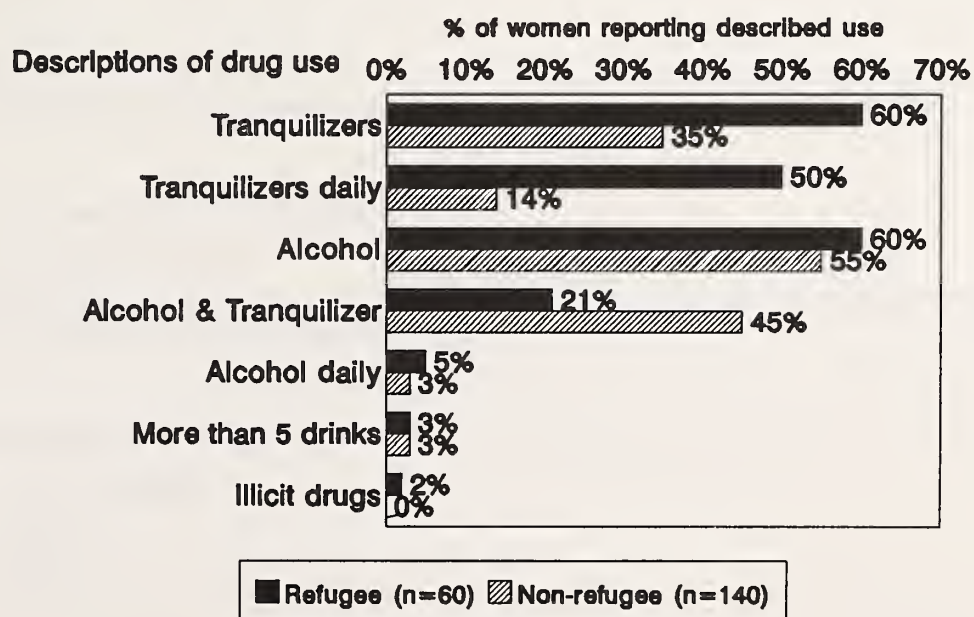
f. How were the results used?

The results strongly supported the conclusion that refugee women were more socially isolated than non-refugee immigrant women on all of the indicators monitored in the present evaluation. It seemed plausible that isolation was a contributing factor to the large proportion of women in this group who used prescription drugs on a daily basis. The greater needs of refugee participants will be considered in decisions made about caseloads, programming and budget for the coming year.

Methodological, measurement and ethical issues:

Methodological. Program staff became aware that the collection and entry of data pertaining to the various indicators of social isolation at the time of client intake could be used as pre-test or baseline data in an outcome evaluation of the program in the future.

File #_____

Community Support Program for Immigrant Women

Client Intake

Date of assessment: _____

Name: _____

Address: _____

Telephone: (Home): _____ (Work): _____

Native language (mother tongue): _____

Other languages spoken: _____

1.   Date of birth: _____

2.   Marital status:

    ☐ Married or common-law ☐   Widowed

    ☐ Separated ☐   Single

    ☐ Divorced

3.   Current living arrangements:

    ☐ Living alone   ☐   Living with friends

    ☐ Living with spouse/partner ☐   Other *(specify)*_____

    ☐ Living with other family members

4.   Highest level of education attained: _____

    (Try to estimate equivalent grade or university degree in Canadian education system.)

5.   Month and year of arrival of Canada: _____

    Number of years in Canada: _____years

    (Express months as a decimal fraction of a year. For example if the person had been in Canada two years and six months, this would be noted as 2.5 years.)

6.   Status upon arrival in Canada:

    ☐ Landed immigrant

    ☐ Refugee

    ☐ Student

7. Functional English: *(Can understand and speak English well enough to respond to questionnaires on intake form without help of a translator.)*

☐ Yes
☐ No

8. Paid employment in Canada during past 12 months:

☐ Yes, *(specify)*_____
☐ No

9. Affiliation with an ethnic group/club/organization:

☐ Yes, *(specify)*_____
☐ No

10. Involvement with community agencies during the last 12 months:
(Please check all that apply.)

☐ Family Services
☐ Children's Aid Society
☐ Sexual Assault Crisis Centre
☐ Women's Community House
☐ Community Mental Heath
☐ Public Health Unit
☐ Other *(specify)*_____

11. Alcohol and other drug use during the past six months:

☐ Yes ☐ No any use of tranquilizers and/or sleeping pills
☐ Yes ☐ No tranquilizers and/or sleeping pills used daily or almost daily
☐ Yes ☐ No any use of alcohol
☐ Yes ☐ No alcohol consumed daily or almost daily
☐ Yes ☐ No has had more than five drinks on one occasion at least six times during past six months
☐ Yes ☐ No any use of illicit pills

Part 3. Outcome Evaluation

What proportion of clients were employed 12 months after starting the program?

What proportion of clients were affiliated with ethnic clubs/organizations 12 months after starting the program?

What proportion of clients used other community services during the 12 months after starting the program?

What proportion of clients were using sleeping pills and/or tranquilizers 12 months after starting the program?

a.   Who was asking the question and why did they want this information?

In order to argue for **continued funding** the program needed to show some evidence of success. While they did not have the resources to conduct a full scale evaluation, it was possible to assess the extent to which some of the outcome objectives were being achieved. In particular, they could compare pre- and post- functioning of program participants in terms of employment, affiliation with ethnic organizations, use of community services, and use of sleeping pills and/or tranquilizers.

b.   What resources were needed to collect and interpret the information?

The program secretary spent six hours retrieving the follow-up summaries from case files, entering the information into the computer, and preparing frequencies.

c.   How were the data collected?

The program includes many volunteers from the various ethnic communities. As part of program operations, volunteers telephoned program participants 12 months after they first came to the program to find out how they were doing and if they needed any further assistance. At this point, some basic statistics were collected regarding whether or not they were employed, whether they belonged to an ethnic organization, whether they had used any community services, and whether they had taken sleeping pills and/or tranquilizers. The information was recorded on a follow-up summary sheet.

d.   How were the data analyzed?

The results were entered into the computer and analyzed using a statistical software program. Frequencies of responses were computed for answers regarding employment, ethnic organization, use of community services, and use of sleeping pills and/or tranquilizers.

Selected characteristics of participants are shown in line graph form comparing status at initial assessment and at 12-month follow-up (prepared using Harvard Graphics [see Appendix C]).

e.   What did they find out?

Of 200 women assessed, 184 (92%) participated in the follow-up interview. Of the 16 who did not participate, 15 could not be located and one did not wish to be interviewed. As shown in Table 1, the program participants improved on all indicators, with substantial increases in employment, affiliation with an ethnic club and use of available services. In addition, use of tranquilizers and/or sleeping pills dropped dramatically. The results are shown using a line graph in Figure 1 (produced using Harvard Graphics).

Table 1. **Percent of Participants in the Community Support Program for Immigrant Women Who were Employed, Who Belonged to an Ethnic Organization, Who Used Community Services, and Who Used Tranquilizers and/or Sleeping Pills (Initial Status Compared to Status at 12-Month Follow-Up)**

	Initial status n=200	Status at 12 months n=184
has had paid employment during past 12 months	41%	65%
currently belongs to an ethnic club or organization	36%	70%
has used helping agency during past 12 months	12%	23%
used tranquilizers and/or sleeping pills during past six months	43%	19%

Figure 1. Change in Status Regarding Employment, Belonging to an Ethnic Club, Using Community Services, and Using Tranquilizers and/or Sleeping Pills (Initial Status Compared to 12-Month Follow-up)
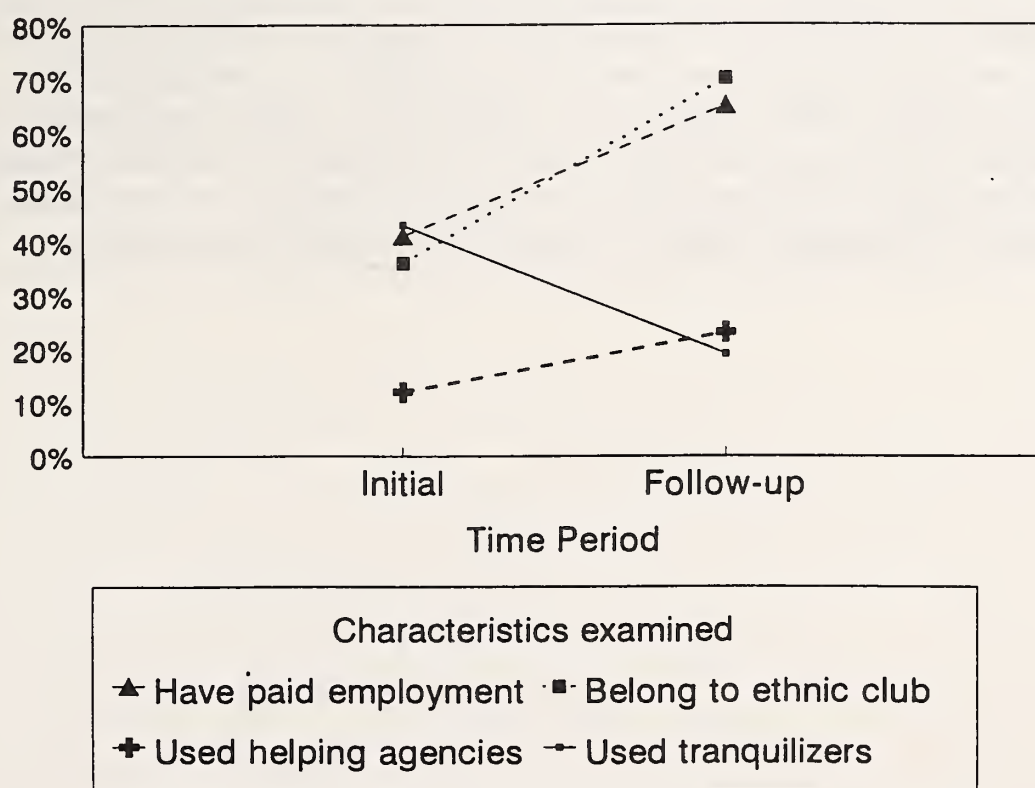
f.   How were the results used?

The results indicated substantial change on all three measures. These results were used to demonstrate that the program was succeeding in achieving at least some of the short-term objectives as well as showing success regarding the long-term objective of reducing substance abuse.

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Methodological, measurement and ethical issues:

Methodological. The nature of the program was such that participants spoke many languages and many participants did not have a good command of English. Therefore, the multilingual volunteers were essential to the functioning of the program as well as to the follow-up. Because the person's native language was recorded on the intake form, it was possible for program staff to identify the language potentially needed by the volunteer in order to conduct the follow-up. There were many languages represented among volunteers and, of course, many program participants were able to be interviewed in English. Ensuring that respondents were able to understand and respond to the follow-up questions was a major concern of the program.

Because there was no control or comparison group, it is not possible to know for sure that changes made by the clients can be attributed to the program. While these results are encouraging and suggest that the program has been helpful, it is possible that the participants would have shown improvement in these areas without attending the program. To conclusively assess the overall effectiveness of the program, it would be necessary to include a control group in the evaluation (i.e., a group of people who were exactly like the participants of the program except that they did not receive the program).

</div>

H. Prevention Program For High-Risk Youth

Program: The program is one component of Youth Addiction Services. Clients range in age from 16 to 24 and are referred to the service by a variety of sources such as the legal system, their family/friends, their school, and themselves. Some clients are also referred by other sources, such as employers, physicians, and social services agencies.

The four session prevention program is targeted at youth who experience a low level of dependency on alcohol and/or other drugs and a low level of problems associated with the use of alcohol and/or other drugs. These youths have been referred to Youth Addiction Services as a result of alcohol and/or other drug use behaviour about which they or others are concerned. The prevention program consists of four educational sessions. Each session involves a combination of videos, discussion, and handouts. The sessions are: 1. Alcohol and its effects; 2. Other drugs and their effects; 3. Why people use alcohol and other drugs; 4. Making healthier choices than to use alcohol and other drugs.

This example includes quality enhancement questions at three levels of evaluation:

Part 1.   Client Characteristics

Part 2.   Client Satisfaction

Part 3.   Client Characteristics by Client Satisfaction.

Part 1. Client Characteristics

Has the number of referrals from schools and probation services increased from the previous year?

What proportion of clients are aged 16-19?

What is the average age of program participants from each referral source?

a. Who was asking the question and why did they want this information?

The **Program's Community Advisory Committee** requires the program manager to monitor the characteristics of those attending the program in order to ensure that the program content and delivery is suited to the participants and that other agencies in the community are aware of and using the service.

In the last year, the program has been working together with schools and with probation services to identify high-risk youth. Therefore, they expect increased referrals from these sources.

In previous years, the majority of program participants have been in the 16-19 age range. Therefore, most of the program materials used (e.g., films/videos, handouts) have been specifically developed for this age group. It is important, however, for the program to monitor the age range of participants to ensure that the program materials continue to be appropriate. While the school referrals are likely to be in this age group, it is possible that referrals from other agencies may be older. Therefore, the Advisory Committee wanted to monitor not only overall average age, but also average age from each referral source.

b. What resources were needed to collect and interpret the information?

Information is gathered on an ongoing basis. The program secretary spent approximately three hours entering information into the computer, tabulating statistics using EPI INFO (see Appendix A), and preparing summary tables.

c.   *How were the data collected?*

As each client is admitted to the prevention program, counsellors record his or her gender, age, and referral source on a program participation log. At the end of the year, all logs are forwarded to the program secretary for tabulation.

d.   *How were the data analyzed?*

The information was entered and analyzed using EPI INFO (see Figure 1 for command statements in EPI INFO for doing these analyses). Number and percent of clients from each type of referral source was calculated and compared (in a table) to last year's statistics. Average age overall was calculated, as well as average age from each referral source.

A line graph comparing the current year's statistics with last year's statistics was generated using Lotus 1-2-3 (see Appendix B).

e.   *What did they find out?*

Forty-six clients attended the prevention program in 1992. Table 1 shows the number and percentage of referrals from each referral source in 1992 compared to 1991. These same results are shown in bar graph form in Figure 2, produced using Lotus 1-2-3 (see Appendix B). These results indicate that the number of referrals from the legal system and from schools had increased substantially from the previous year.

The age of participants ranged from 16 to 23 with 87% of participants in the 16-19 age group. The average age overall was 17.8 years. Table 2 shows the average age of participants from each referral source. As is evident from this table, average age did not vary greatly according to referral source, although school referrals tended to be slightly younger, on average, and legal and "other" referrals to be somewhat older.

Figure 1. Commands and Outputs From EPI INFO Used to Compute Frequencies of Referral Sources and Mean Age and Age by Referral Source

By using the command, FREQ REFERRAL, the following frequency table is generated:

```
REFERRAL ¦ Freq  Percent   Cum.
---------+------------------------
1        ¦    8   17.4%    17.4%
2        ¦   12   26.1%    43.5%
3        ¦   14   30.4%    73.9%
4        ¦    7   15.2%    89.1%
5        ¦    5   10.9%   100.0%
---------+------------------------
   Total ¦   46  100.0%

Sum                 =    127.00
Mean                =      2.76
Standard deviation  =      1.23
```

By using the command, MEANS AGE, the following frequency table and statistics are generated:

```
AGE  ¦ Freq  Percent   Cum.
-----+------------------------
16   ¦   21   45.7%    45.7%
17   ¦    7   15.2%    60.9%
18   ¦    5   10.9%    71.7%
19   ¦    7   15.2%    87.0%
20   ¦    1    2.2%    89.1%
21   ¦    4    8.7%    97.8%
23   ¦    1    2.2%   100.0%
-----+------------------------
Total ¦  46  100.0%

Sum                 =    805.00
Mean                =     17.50
Standard deviation  =      1.83
```

By using the command, MEANS AGE REFERRAL /N, the following statistics are generated:

MEANS of AGE for each category of REFERRAL

REFERRAL	Obs	Total	Mean	Variance	Std Dev
1	8	139	17.375	3.982	1.996
2	12	216	18.000	3.091	1.758
3	14	234	16.714	0.835	0.914
4	7	124	17.714	6.905	2.628
5	5	92	18.400	5.300	2.302

REFERRAL	Minimum	25%ile	Median	75%ile	Maximum	Mode
1	16.000	16.000	16.000	19.000	21.000	16.000
2	16.000	16.500	18.000	19.000	21.000	16.000
3	16.000	16.000	16.500	17.000	19.000	16.000
4	16.000	16.000	16.000	19.000	23.000	16.000
5	16.000	16.000	19.000	20.000	21.000	16.000

ANOVA
(For normally distributed data only)

Variation	SS	df	MS	F statistic	p-value
Between	16.139	4	4.035	1.222	0.315909
Within	135.361	41	3.301		
Total	151.500	45			

Bartlett's test for homogeneity of variance
Bartlett's chi square = 5.658 deg freedom = 4   p-value = 0.226198

The variances are homogeneous with 95% confidence.
If samples are also normally distributed, ANOVA results can be used.

Kruskal-Wallis One Way Analysis of Variance

```
Kruskal-Wallis H (equivalent to Chi square) =      4.162
                        Degrees of freedom =          4
                                 p value =    0.384587
```

Table 1.   Number and Percent of Participants from Each Referral Source (1992 Compared to 1991)

Referral source	1991	1992
family/friends	9 (26%)	8 (17%)
legal system	4 (12%)	12 (26%)
school	8 (24%)	14 (30%)
self	7 (21%)	7 (15%)
other	6 (18%)	5 (11%)

Figure 2. Change in Number of Participants From Each Referral Source
(1992 Compared to 1991)

Prevention Program for High-Risk Youth
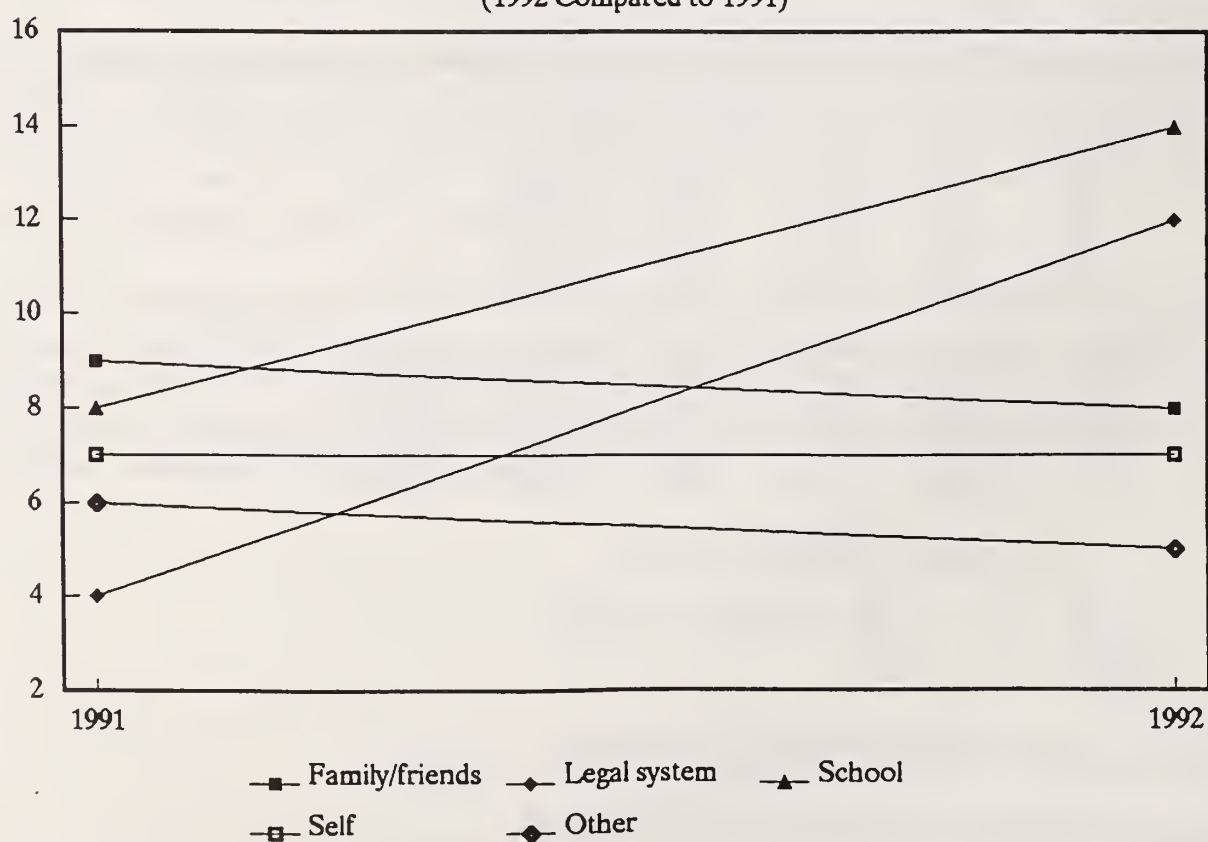
Table 2.   **Average Age of Participants from Each Referral Source**

Referral source	Average age
family/friends	17.4
legal system	18.0
school	16.7
self	17.7
other	18.4

f.   How were the results used?

The results indicated that the number of referrals from the legal system and from schools had increased substantially from the year before, without any loss of referrals from other sources. Since the program was now operating at capacity, no further actions were planned to increase referrals. The program manager would continue to communicate with all referral sources on an ongoing basis and continue to monitor referrals. In addition, client satisfaction data would be analyzed to assess the extent to which participants from different referral sources found the program useful.

The data on age of participants indicated that most clients were in the 16-19 age group. There seemed to be no major differences in ages of participants based on referral source. The program would continue to target materials to this age group and continue to monitor age of participants. In addition, client satisfaction responses would be analyzed to assess the extent to which the small number of older participants found the program useful.

Methodological, measurement and ethical issues:

Measurement: The categories used for referral sources were the ones most frequently reported on the intake form. The "other" category included those referral sources that were reported too infrequently to merit a separate category, including social service agencies, employer, and physicians.

Part 2. Client Satisfaction

To what extent did participants find the four types of content in the program useful?

To what extent did participants find the three delivery formats of the program useful?

a. Who is asking the questions and why do they want this information?

On an ongoing basis, **program staff** need to know if clients find the types of content and the delivery formats useful. This helps staff identify when changes are needed in the program and the particular aspects of the program that need to be changed.

b. What resources were needed to collect and interpret information?

It was necessary to design a short questionnaire to be completed by program participants (see final page of this part). This took approximately four hours, including meeting to decide on the questions, drafting the questions, and typing and duplicating the questionnaire. It also took the program secretary two hours to enter the data into the computer, analyze the information using EPI INFO and prepare summary tables.

c. How were the data collected?

At the end of the fourth session, the counsellor distributed questionnaires to program participants. The questionnaires were completed anonymously. Completed questionnaires were deposited by clients in a box at the back of the room before they left the session.

On the questionnaire, program participants were asked to rate the usefulness, on a five-point scale, of seven different elements of the program. The content for each of the four sessions made up four of the rating categories, and the manner in which the information was given made

up the other three rating categories. Clients were asked to rate the usefulness of each category on a scale of 1 – not at all useful, to 5 – very useful.

Participants who did not attend the fourth session (or dropped out before the final session) were contacted by the counsellor in order to find out why they did not attend. These clients were asked to rate program components for the sessions they attended, if any. They were also asked for additional comments.

d. *How were the data analyzed?*

The information was entered and analyzed using EPI INFO (see Appendix A). Average ratings for each of the program components were calculated, and additional comments were recorded. Figure 1 shows the EPI INFO commands used to calculate average ratings.

Lotus 1-2-3 was used to prepare a graphical display of the results.

Figure 1. **Commands and Outputs From EPI INFO Used to Compute Mean Ratings for Program Content Delivery**

By using the command, MEANS ALCOHOL, the following table is generated:

```
ALCOHOL │ Freq  Percent    Cum.
────────┼──────────────────────
      1 │    1     2.2%     2.2%
      2 │    6    13.3%    15.6%
      3 │   12    26.7%    42.2%
      4 │   11    24.4%    66.7%
      5 │   15    33.3%   100.0%
────────┼──────────────────────
  Total │   45   100.0%

Sum                 =    168.00
Mean                =      3.73
Standard deviation  =      1.14
```

Similar tables are generated by substituting the other category names for ALCOHOL in the MEANS command - e.g., MEANS DRUGS, MEANS WHY USE, MEANS HEALTHIER, MEANS VIDEOS, MEANS DISCUSSION, MEANS HANDOUTS.

e. *What did they find out?*

Forty-six clients attended the prevention program in 1992. Seven (15%) dropped out before the final session or did not attend the final session. The counsellor was able to contact six of the seven who did not attend the final session and obtain ratings on some aspects of the program from each of them.

As shown in Table 1, all four types of session contents were rated useful, with "how to make healthier choices" rated the highest (average of 4.3 out of 5) and "information about alcohol and its effects" rated the lowest (average of 3.7 out of 5). The delivery formats were also rated fairly highly, with discussion periods rated as the most useful of the three formats. These results are shown in bar graph format in Figure 2, prepared using Lotus 1-2-3.

Table 1.   **Average Usefulness Rating (1=not at all useful to 5=very useful) for Program Content and Delivery**

Program component	Average rating
Types of content:	
information about alcohol and its effects (n=45)	3.7
information about other drugs and their effects (n=42)	4.2
why people use alcohol and other drugs (n=40)	4.2
how to make healthier choices (n=39)	4.3
Delivery format:	
videos (n=39)	3.9
discussion periods (n=39)	4.5
handouts (n=39)	3.9
Overall:	4.0

Figure 2. Average Usefulness Rating for Program Content Type and Delivery Format

Average Overall Rating (out of 5)
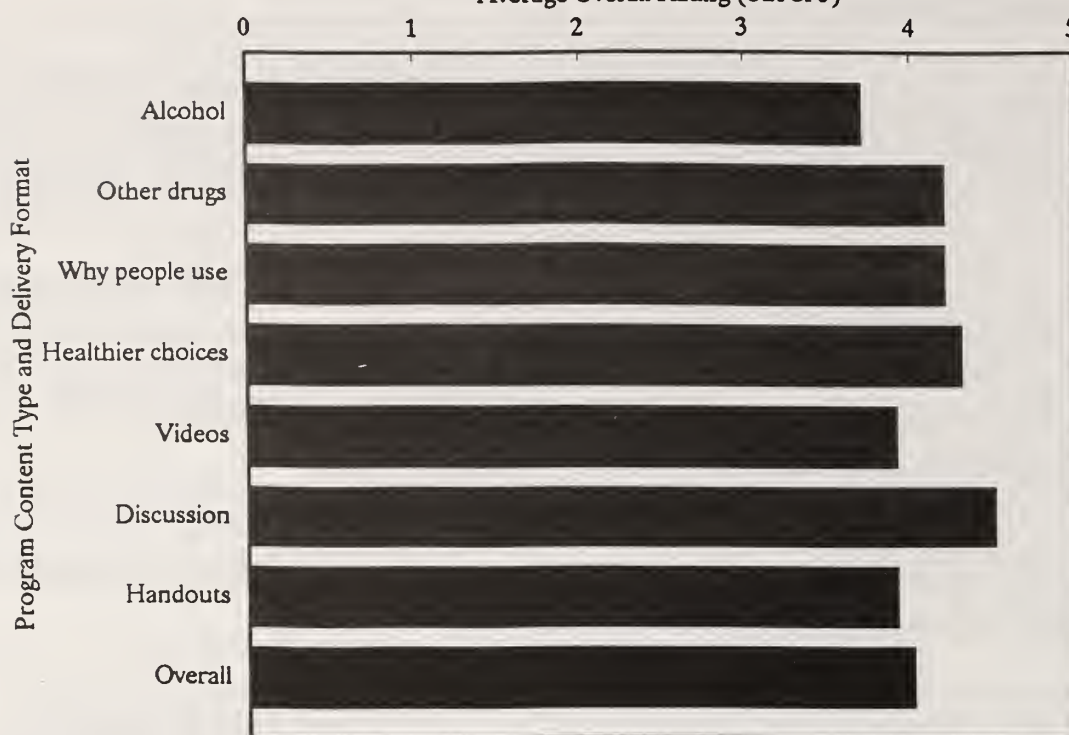
Some of the suggestions for improving the program were:

- Use more videos.
- Get more up-to-date videos.
- Do it all in one week instead of once a week for four weeks.
- More specific information about drinking and driving instead of general information about alcohol.
- Not so many facts about alcohol and other drugs – just stuff that relates to us.
- I knew most of the stuff already.
- Not much was new – find out what we already know before you tell us the same stuff again.

Of the six clients who did not complete the program and were contacted by the counsellor, two indicated that they did not want to come and no one could force them to do so; one client had obtained a part-time job and was unable to attend some of the scheduled sessions, although he indicated that he had found the sessions that he did attend useful; one client stated that her parents were no longer pressuring her to attend, and she indicated that she "already knew it all"; one client stated that she had no way of getting to the agency for the sessions, and was not particularly interested anyway; and one client stated that he decided he did not feel comfortable with so many younger participants. In the last instance, the client was 21 years of age. The counsellor offered to present the four sessions to him individually, but the client declined, stating that perhaps he did not need to attend.

f.   How were the results used?

The results indicated that participants generally found the information provided by the program to be helpful. However, the information about alcohol and its effects was rated least helpful, and some of the suggestions for improvement indicated that participants would have preferred information that they did not already know. Therefore, program staff arranged to examine the substance abuse curriculum for the local school system in order to avoid duplication of information.

Some clients indicated that they would like to have information that is more relevant to them. To identify the areas that participants consider to be most relevant, an additional section was added to the 1993 questionnaire. This information will be used to modify the program the following year.

The results also indicated that participants found the delivery formats of the program to be useful. However, the participants indicated that the videos and handouts were less useful than the discussion periods. Suggestions for improvement indicated that some videos seemed dated. Program staff are currently viewing new videos to select appropriate ones to replace those that are out-of-date.

With regards to the use of handouts, program staff are reviewing all written material used in the program to select handout material that will either summarize or enhance information taught, and not simply duplicate the information.

Finally, the program staff implemented a policy where no-shows were telephoned immediately following the missed session in order to identify ways that the program could facilitate attendance (e.g., arranging transportation, if needed).

Methodological, measurement and ethical issues:

Methodological. In obtaining client feedback it is important to contact program dropouts as well as program completers. By contacting clients who did not return, counsellors were able to gain a better understanding of clients' needs (e.g., other people in the group too young; no way to get there) and of why clients terminated. Ratings provided only by those who completed the program tend to overestimate the usefulness of the program since clients who terminate early often do so because they are not satisfied. It is important to gather this information in order to improve the program.

Measurement. A five-point rating scale was used to measure client ratings of usefulness in order to gain a better understanding of the degree to which clients found the services to be useful or not useful. A simple yes/no would not indicate this as accurately. As well, the rating scales were presented in a neutral format so as not to bias response. Both the rating scale and the use of non-judgmental wording in the questions add to the reliability of the responses given.

Youth Addiction Services Education Program
Feedback Questionnaire

Please rate how useful you found each of the four education sessions:

		not at all useful		Circle one		very useful	Check here if you did not attend that session
I.	Alcohol and its effects	1	2	3	4	5	☐
II.	Other drugs and their effects	1	2	3	4	5	☐
III.	Why people use	1	2	3	4	5	☐
IV.	Making healthier choices	1	2	3	4	5	☐

Please rate how useful you found each of the three different presentation formats:

	not at all useful		Circle one		very useful
Videos	1	2	3	4	5
Group discussion	1	2	3	4	5
Handouts	1	2	3	4	5

Age: _____

Gender: ☐ male   ☐ female

Who referred you to the program? *(Check one only - if uncertain, ask counsellor.)*

1. ☐ family or friends
2. ☐ legal system
3. ☐ school
4. ☐ self
5. ☐ other

THANK YOU FOR HELPING US TO IMPROVE OUR PROGRAM !
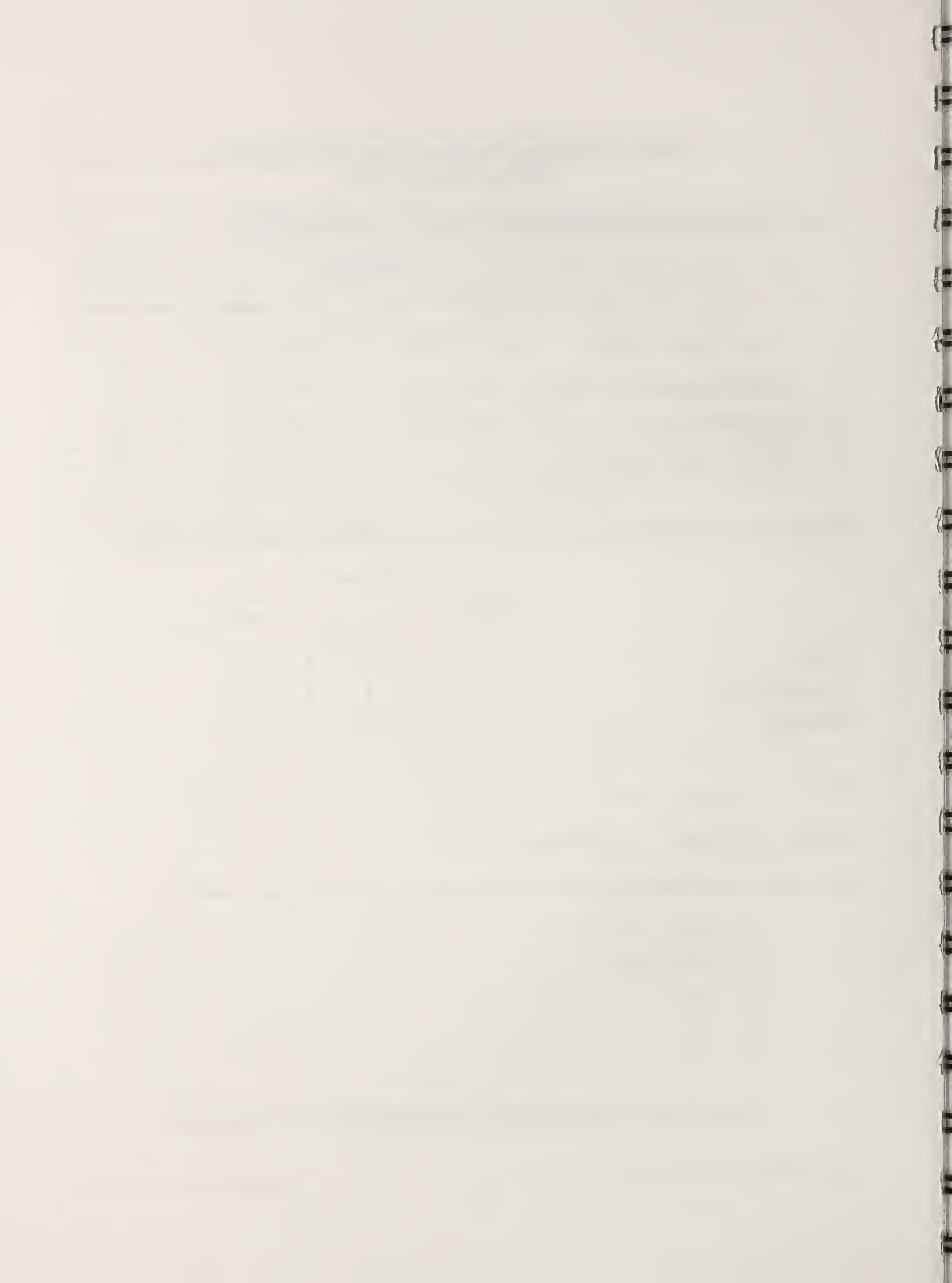
Prevention Program for High-Risk Youth

Part 3. Client Characteristics by Client Satisfaction

Did females and males report finding the program equally useful?

To what extent did participants from different referral sources report that the program was useful?

Were older participants less satisfied with the program than younger participants?

a. Who is asking the questions and why do they want this information?

The **program staff** felt that female participants were much more receptive and participated more in the sessions than did male participants. If certain aspects of the program were identified as less useful for males, these might be changed to better address the needs of both females and males.

Another concern related to the usefulness of the program for participants from different referral sources. With the increase in referrals from legal sources and from schools, it was particularly important to find out whether youth from these referral sources found the program useful.

Finally, some of the open-ended comments on the satisfaction questionnaire suggested that older participants did not find the program as useful as did the younger participants.

b. What resources were needed to collect and interpret information?

All information required had already been entered on the computer; therefore, only about an hour was required to generate average scores for each comparison group on the four types of content and the three delivery formats of the program and to prepare summary tables.

c.   *How were the data collected?*

All required information had been collected in the questionnaire distributed at the end of the fourth session. On the questionnaire, program participants were asked to rate the usefulness, on a five-point scale (1 = not at all useful to 5 = very useful).

d.   *How were the data analyzed?*

The information existed in a database using EPI INFO (see Appendix A). The commands required to generate these analyses are shown in Figure 1. The average usefulness ratings of the four types of content and the three delivery formats were computed for each of the following comparisons: gender, referral source, and age group (16 to 19 or 20+).

Graphical comparisons of the usefulness ratings were prepared with Lotus 1-2-3 (see Appendix B).

Figure 1.   Commands and Outputs From EPI INFO Used to Compute Mean Ratings for Each of the Program Content Types and Delivery Formats by Gender

By using the command, MEANS ALCOHOL GENDER /N, the following statistics are generated:

```
                MEANS of ALCOHOL for each category of GENDER

GENDER          Obs        Total        Mean    Variance    Std Dev
1               24           83         3.458      1.216       1.103
2               21           85         4.048      1.248       1.117
Difference                             -0.589

GENDER       Minimum     25%ile      Median      75%ile     Maximum       Mode
1              1.000      3.000       4.000       4.000       5.000       4.000
2              2.000      3.000       5.000       5.000       5.000       5.000

                              ANOVA
                (For normally distributed data only)
        The p value is equivalent to that for the Student's T Test,
                    since there are only 2 samples.

Variation          SS   df         MS  F statistic     p-value
Between         3.889    1      3.889        3.161    0.078945
Within         52.911   43      1.230
Total          56.800   44

                Bartlett's test for homogeneity of variance
      Bartlett's chi square =   0.004  deg freedom =  1    p-value = 0.952559

            The variances are homogeneous with 95% confidence.
       If samples are also normally distributed, ANOVA results can be used.

 Mann-Whitney or Wilcoxon Two-Sample Test (Kruskal-Wallis test for two groups)

 Kruskal-Wallis H (equivalent to Chi square) =        3.139
                     Degrees of freedom =               1
                                p value =        0.076433
```

MEANS ALCOHOL GENDER /N

Average ratings can be calculated for referral source and age group by substituting Referral or AgeGrp for GENDER. Similarly, other content areas and formats can be substituted for the variable ALCOHOL.

e. What did they find out?

Forty-six clients attended the prevention program in 1992. Forty-five (97.8%) completed at least one program usefulness rating on the client feedback sheet. Thirty-nine (84%) provided responses to all seven usefulness ratings on the client feedback questionnaire. The analyses that follow were based on data from those participants who provided usefulness ratings on all seven program components.

As shown in Table 1, female participants tended to rate the program more highly than male participants. The same results are shown in a line graph in Figure 2, produced using Lotus 1-2-3.

Table 1. **Average Usefulness Rating for Program Content and Delivery (Female Compared to Male Participants)**

Program component	Female n=18	Male n=21
alcohol and its effects	4.0	3.5
other drugs and their effects	4.4	3.9
why people use	4.6	3.9
making healthier choices	4.7	4.0
videos	4.4	3.4
discussion	4.8	4.2
handouts	4.3	3.5
overall	4.4	3.6

Figure 2. Average Usefulness Rating for Program Content and Delivery (Female Compared to Male Participants)
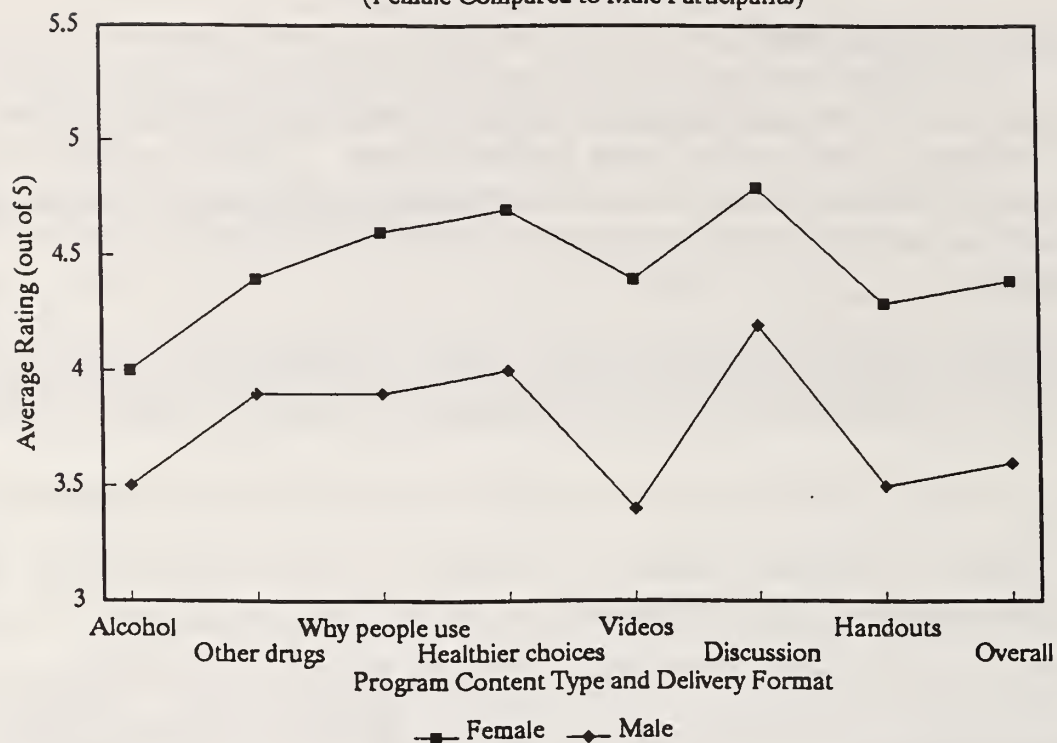
Some differences emerged on overall satisfaction levels of participants from different referral sources, with legal referrals giving the lowest ratings (see Table 2 and Figure 3).

Table 2.   Average Usefulness Rating for Program Content and Delivery (Comparison Among Participants From Each Referral Source)

Program component	Family/friends n=6	Legal n=11	School n=10	Self n=7	Other n=5
alcohol and its effects	4.1	3.0	3.7	3.7	4.8
other drugs and their effects	4.4	3.1	4.5	4.4	4.8
why people use	4.7	3.1	4.5	4.4	5.0
making healthier choices	4.8	3.3	4.7	4.6	5.0
videos	4.3	2.9	4.3	4.0	4.4
discussion	4.8	3.9	4.6	4.6	4.8
handouts	4.5	2.8	3.8	4.3	4.8
overall	4.5	3.1	4.4	4.0	4.6

Figure 3. Average Usefulness Rating for Program Content and Delivery (Comparison Among Participants From Each Referral Source)
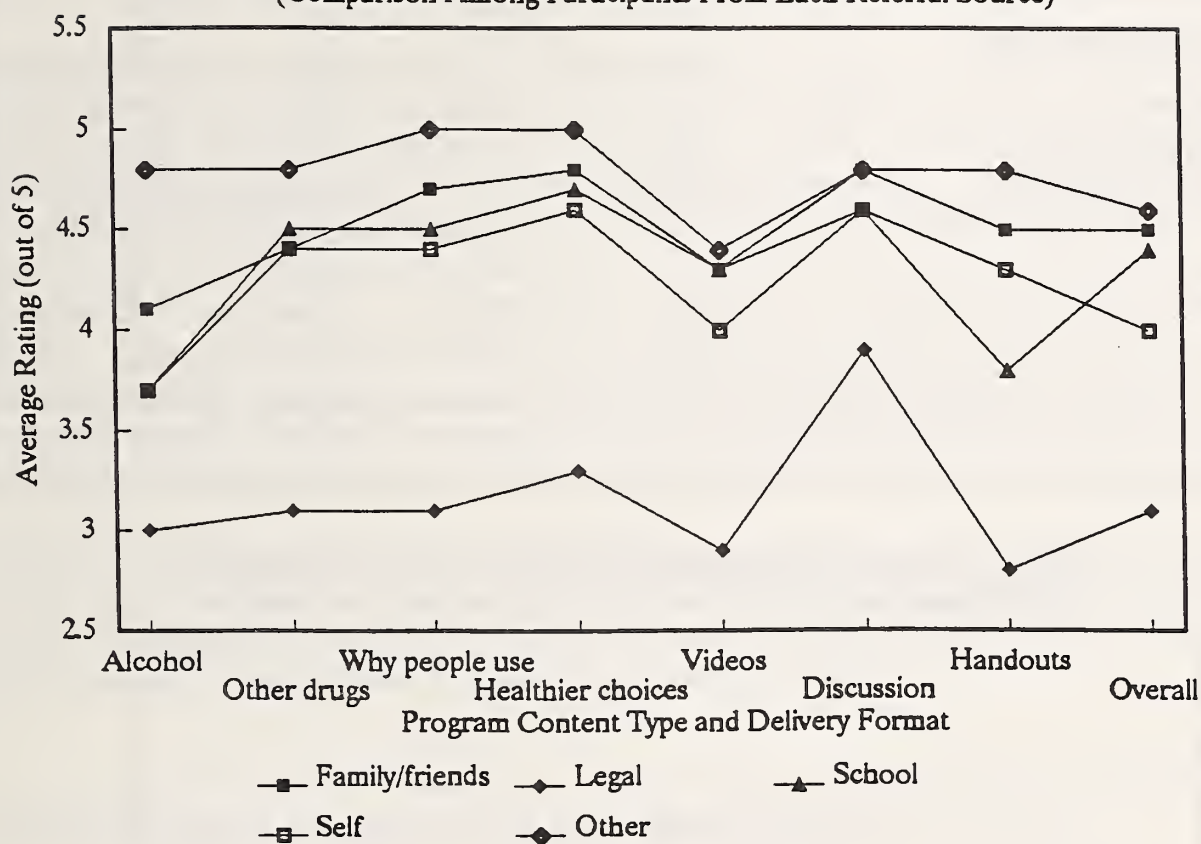
As shown in Table 3 and Figure 4, younger participants tended to rate the program more useful than older participants; however, since only four participants were over the age of 19, these results need to be interpreted with caution.

Table 3.   Average Usefulness Ratings for Program Content and Delivery Format
             (Participants Aged 16 to 19 Compared to Those Aged 20 and Older)

Program component	Aged 16-19 years n=35	Aged 20+ years n=4
alcohol and its effects	3.8	3.3
other drugs and their effects	4.3	3.2
why people use	4.3	3.4
making healthier choices	4.4	3.6
videos	4.0	3.0
discussion	4.6	3.8
handouts	3.9	3.4
overall	4.1	3.2

Figure 4. Average Usefulness Rating for Program Content and Delivery
(Participants Aged 16 to 19 Compared to Those Aged 20 or Older)
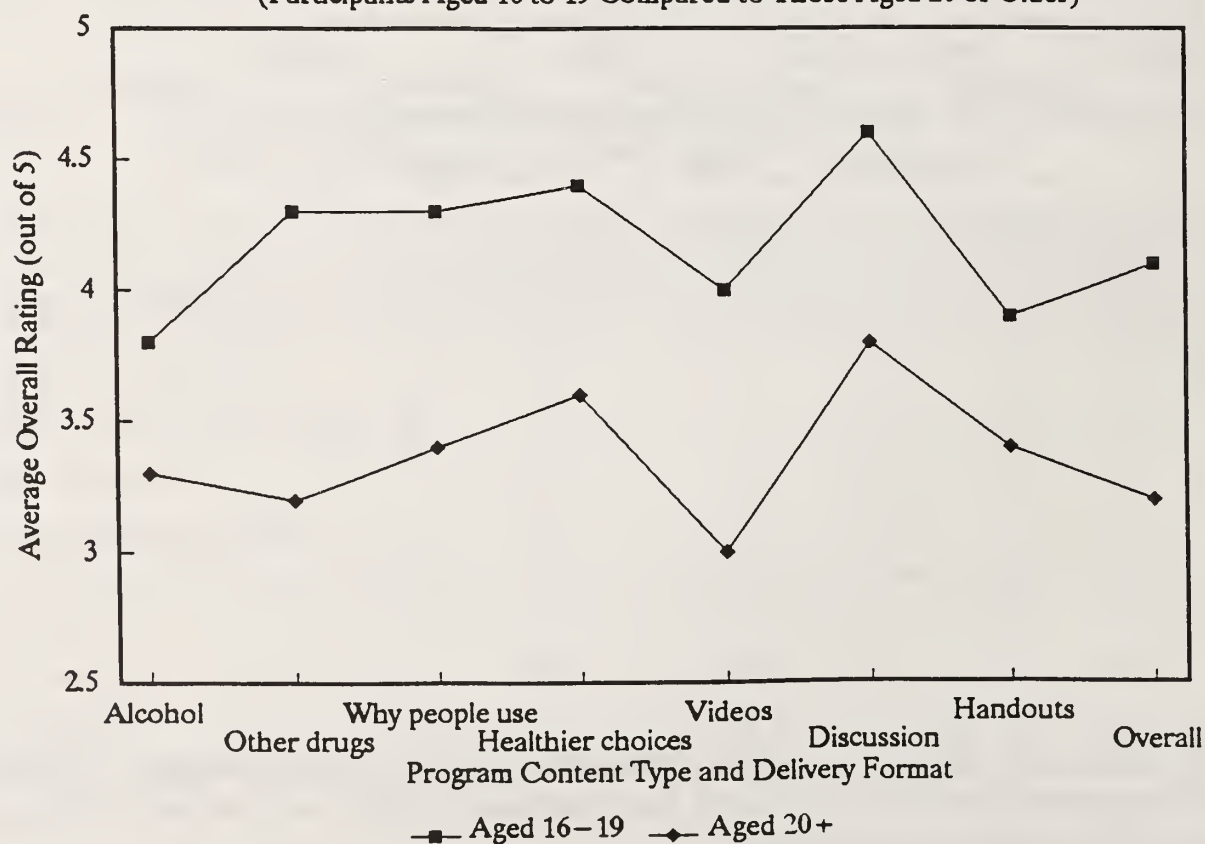
f. *How were the results used?*

The results indicated that females consistently rated the program elements more positively than did males. This seemed to be a general trend, rather than related to specific course content. The results provided no clear direction for revising the program to make it more satisfactory for males. A decision was made to continue to monitor this trend.

Although the policy set up with the legal system for referrals of high-risk youth to Youth Addiction Services increased referrals to the program in 1992, the results indicated that these individuals did not rate the program as very useful. This could mean that the types of content and the delivery formats need to be re-examined for legal referrals. On the other hand, it may be that these individuals, perhaps as a result of being forced to attend the program, resisted participating. The program staff presented this result to the community advisory committee and recommended that alternate arrangements be considered for addressing the needs of the legal referrals. The advisory committee felt that it was important to continue to monitor the suitability of the community program for legal referrals before making changes. Given that the new questionnaire will collect additional information, evaluations for 1993 will be examined closely to determine possible changes that might increase satisfaction levels among legal referrals.

Although participants who were over 19 years of age tended to rate the program less highly than younger participants, there were only four in the older group who participated in the feedback survey. This finding may indicate that the program is less useful for older participants, but more data need to be collected to adequately assess age effects.

Methodological, measurement and ethical issues:

Methodological. Comparing the satisfaction levels of participants from different referral sources for only one year involves average scores calculated on samples as small as four people. Therefore, the reliability of observed differences among referral sources is questionable. With such small numbers, it is important to monitor differences over several years so that conclusions can be based on larger samples from each referral source.

Although the questionnaires contained each participant's age, gender, and referral source, names were not included. In collecting client satisfaction data it is important that clients be able to respond anonymously.

I. An Outreach Treatment Program for Older Persons

Program: The program is an outreach program for older persons who have problems related to alcohol or other drugs. The program provides a broad range of case management services, including assessment, supportive counselling, crisis intervention and advocacy. Clients are seen in their homes or at the program office depending on their needs. Duration of contact with the program can range from one or two sessions to several years.

This example includes quality enhancement questions for four levels of evaluation:

Part 1.   **Client Characteristics**

Part 2.   **Program Delivery**

Part 3.   **Outcome Evaluation**

Part 4.   **Client Characteristics by Program Delivery.**
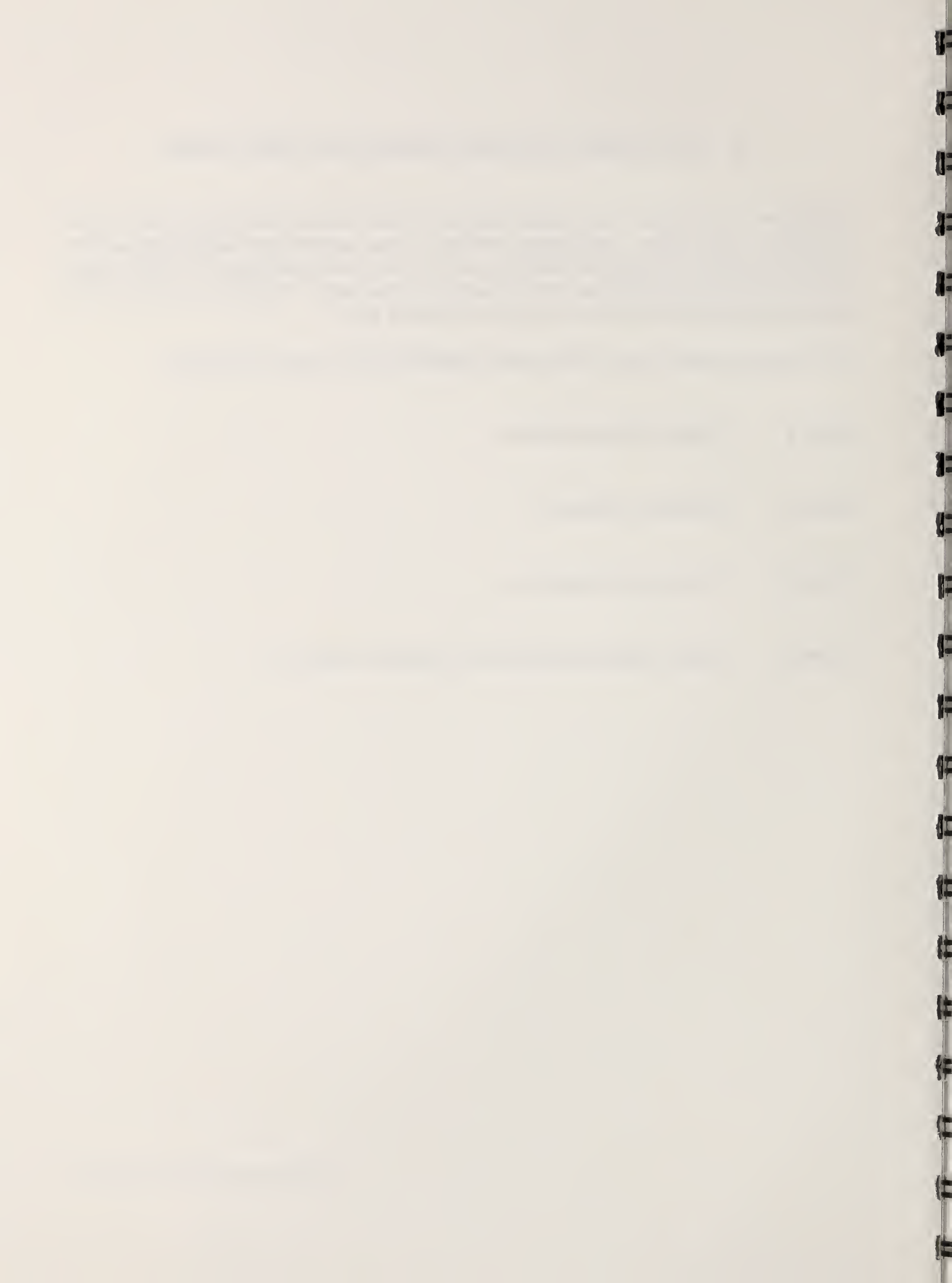
> Level of difficulty: easy
> Level of resources needed: minimal

Part 1. Client Characteristics

How many clients were experiencing accommodation problems?

---

a. *Who was asking the question and why did they want this information?*

The case workers in the program had observed that they were spending a significant amount of time finding housing for clients. Sometimes the housing problem was related to the client's alcohol or drug problem (e.g., the client was being evicted for drunken behaviour); sometimes the problem was finding affordable housing for a person on a very low income; and sometimes supportive housing, such as a nursing home, was needed because the client was unable to care for him or herself (because of aging, substance abuse or both).

Finding suitable housing for some clients was very difficult. Many places did not want someone with an active alcohol problem. There was also a need for housing that provided some support but still allowed considerable independent living. For example, some clients were not ill enough to move to a nursing home but not really well enough to live entirely on their own.

The **program manager and staff** wanted information on their clients' housing problems in order to have strong evidence to lobby with municipal and provincial decision-makers regarding the range of housing support needs for older people. The program was also interested in exploring whether there was sufficient need to open a supportive home specifically for older alcohol and drug abusers.

b. *What resources were needed to collect and interpret information?*

Information regarding accommodation problems was collected as part of initial assessment. In addition, accommodation problems that emerged during treatment were recorded. A case worker spent six hours reviewing client files, recording the number of clients who experienced accommodation problems, and recording the nature of problems experienced.

c.   How were the data collected?

The program record keeping included a comprehensive assessment (where a number of questions were asked about accommodation problems). In addition, program workers used a brief form to keep a record of problems that emerged during the treatment process. Data on all cases admitted during the previous year were examined to identify: (a) the proportion of all clients who experienced accommodation problems and (b) the nature of accommodation problems experienced.

d.   How were the data analyzed?

The information was tallied by hand.

A pie graph showing the proportion of clients with different accommodation problems was generated using Lotus 1-2-3 (see Appendix B).

e.   What did they find out?

Of 75 cases, 25 (33%) were found to have some level of accommodation problems. Table 1 summarizes the nature of accommodation problems experienced. These results are shown in pie chart form in Figure 1 (prepared using Lotus 1-2-3).

Table 1.   Types of Accommodation Problems Identified

Type of accommodation problem	Number and % who experienced it.
cognitive or physical impairment requiring move to long-term care	5 (7%)
accommodation problems related to alcohol use that disappeared when the client reduced or quit drinking	10 (13%)
able to live independently but needing some support such as Meals-on-Wheels and homemaking services	10 (13%)

Of the 10 who needed support but could maintain fairly independent living, four never obtained stable housing during the time period of the evaluation. For the remaining six, supports were arranged using a good boarding home or friends or relatives, as well as community services such as Meals-on-Wheels.

Figure 1. Types of Accommodation Problems Identified by Clients
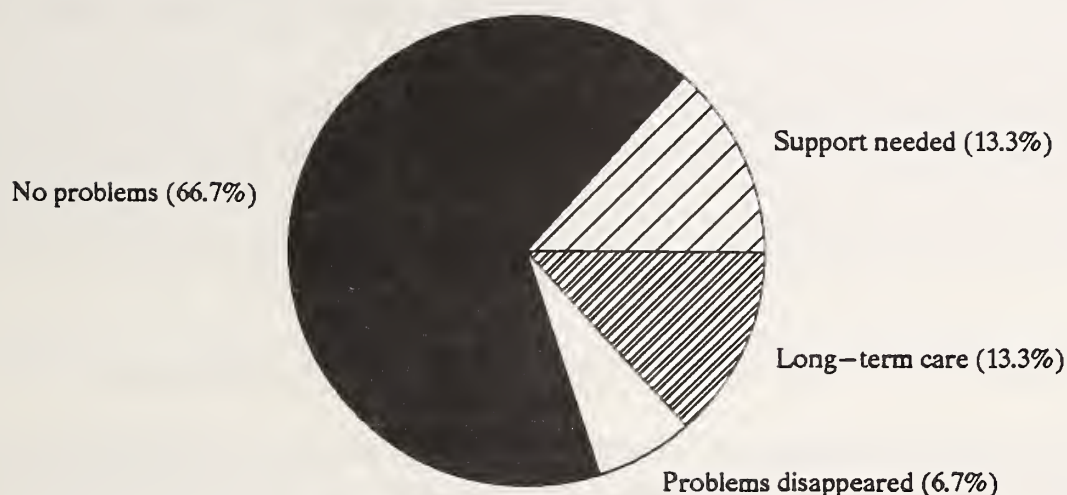
f. *How were the results used?*

Of those experiencing accommodation problems, 10 required institutionalization in a long-term care facility and five eventually achieved totally independent living. Some of the remaining 10 might have benefitted from the availability of a supportive residence for older alcohol and drug abusers. This number did not seem to justify opening such a residence at this time, but the information compiled in this evaluation was used to influence legislation regarding community support. In addition, the information was helpful in training new workers regarding the nature of housing problems that occurred and the kinds of solutions that had been found for previous clients.

> Level of difficulty: easy
> Level of resources needed: moderate

Part 2. Program Delivery

> *How many hours of service were provided to each client?*
>
> *What proportion of these hours were contact hours with the client compared to the proportion of hours involving contact with others about the client?*

a.   Who was asking the questions and why did they want this information?

The **program board** requested that the program begin to compile some basic statistics on hours of direct service. This basic information was needed to identify the types of clients who were likely to require more time. In particular, the board and the program staff wished to explore whether clients who had accommodation problems needed more service. In order to address this and other questions in the future, a system of monitoring contact hours was needed.

b.   What resources were needed to collect and interpret the information?

The data collection required an extra 10-20 minutes per week for each of two case workers to complete weekly logs for average caseloads of 20 clients (a total of 75 clients for the year). This produced about 1,500 logs (since not all clients on the active caseload received services every week). Inputting the data on the computer and tabulating the results required about 20 hours of the secretary's time.

c.   How were the data collected?

For one year, the program workers kept a log of all client-related activities. The log included: (a) who the contact was with and (b) the length of the contact in minutes.

d. *How were the data analyzed?*

The information was entered into the computer using Lotus 1-2-3 (see Appendix B). The secretary calculated the average number of hours of service for client contacts and for contacts with others about specific clients.

e. *What did they find out?*

Table 1 shows how contact hours regarding specific clients during the previous year were distributed between time spent directly with clients and time spent with others regarding clients. Others involved in contacts included family members, friends of the client, and other agencies involved with the client.

Table 1. **Average Number of Contact Hours With Clients and With Others About Clients**

	Average number of hours per client
average number of total contact hours per client	10.2
average number of contact hours with the client only	5.8
average number of contact hours with both the client and someone else	2.4
average number of contact hours with someone else about the client	2.0

f. *How were the results used?*

The information collected helped the board and the program manager to identify the relative amounts of time spent with clients compared to the time spent with others concerning the clients. This information was also used to address more complex evaluation questions, such as identifying the types of clients who required more services (see Part 4 of this example).

Level of difficulty: easy
Level of resources needed: moderate

Part 3. Outcome Evaluation

> *How many clients were doing well 12 months after discharge from treatment?*

a. Who was asking the question and why did they want this information?

The **board** asked for some statistics on how many people were succeeding in the program. The program had been in operation for three years and the board felt that it was time to begin keeping basic statistics on long-term outcomes.

b. What resources were needed to collect and interpret the information?

Most of the information required had previously been collected from clients contacted for follow-up. About 10 hours were needed to track down information on the 15 clients who had not been available for follow-up. An additional three hours were spent compiling the results.

c. How were the data collected?

Part of the program's services included a clinical follow-up with clients at six and 12 months following discharge to obtain feedback about the program and to provide additional support, if needed. To address the evaluation question, the case workers also tried to obtain outcome information on those clients who had not been contacted at follow-up. This extra information was obtained by exploring the following sources: the initial referring agent (e.g., a public health nurse), the client's family, the client's last known address, death records, and asking others who knew the client.

The case workers usually tried to contact their own clients as they felt this would be most comfortable for the client. However, since one case worker who had been involved in providing treatment to the clients who were being followed up had since left the program, some clients were contacted by a case worker whom they did not know.

Usually the case worker spoke with the client by telephone. A few of the clients dropped by the office to chat occasionally and follow-up data were collected from them during one of their visits. Several clients had cognitive or other problems so that the follow-up needed to be done at their residence. Each person was asked about their alcohol and drug use during the past 12 months. They were also asked how they were doing in other areas of their life and whether they needed further assistance from the program.

d.   How were the data analyzed?

The information on outcomes was tallied by hand by the program secretary. Status at follow-up was compared to the clients' status when they were discharged from the program.

Graphical presentations of the results were generated using Lotus 1-2-3 (see Appendix B).

e.   What did they find out?

The case workers were able to obtain information on 36 of the 40 clients who were eligible for a 12-month follow-up interview during the preceding year. As shown in Table 1, clients doing well at discharge tended to continue to do well at follow-up; those doing poorly continued to do poorly. In all, 20 (56%) were rated as "good" status at follow-up (17 who had been rated "good" at discharge and three who had been rated "no improvement" at discharge). Not all had been abstinent or even problem-free, but all 20 reported that they were generally doing much better than before treatment and that problems related to substance abuse were greatly reduced or eliminated. Four (11%) appeared to be unimproved. The remaining 12 (33%) had either died or their condition had deteriorated. It was not possible to assess the extent to which death or deterioration was directly related to post-program alcohol or drug abuse. It was known, however, that in at least some instances, these outcomes were related to the normal events of aging (possibly related to long-term substance abuse), but not related to post-treatment substance use. For example, one person had been hospitalized for cancer at the time of discharge and died without ever returning to drinking. Figures 1, 2 and 3 (produced using Lotus 1-2-3) are pie charts which show the proportion of clients whose status at follow-up was classified as: good, no improvement, or poor for each level of status at discharge.

Table 1.   **Status at Discharge by Status at Follow-Up**

Status at discharge	Status at follow-up		
	Good	**No improvement from pre-treatment level**	**Poor**
good	5 abstinent – doing well 3 occasional light drinking – doing well 4 occasional heavy drinking – doing well 3 abstinent – but other health or emotional problems 1 apparently no problems related to drinking (consumption level not reported) 1 abstinent from alcohol – but one bout with drug addiction since discharge	1 would not answer questions, but known to have had at least one major relapse 1 abstinent at follow-up, but had experienced severe psychiatric problems as well as one major relapse since discharge	3 deceased
no improvement	1 abstinent – doing well 1 occasional heavy drinking – doing well 1 apparently no problems related to drinking	1 would not report consumption level, but believed to be drinking heavily 1 binges and heavy drinking	5 deceased 1 institutionalized
poor			1 institutionalized 1 living with family, but too cognitively impaired to be interviewed; still drinking 1 drinking 5 drinks per day

Figure 1. Status of Clients at Discharge by Status at 12-Month Follow—up:
Good status at discharge

Good at follow—up (77.3%)

Poor at follow—up (13.6%)

No improvement at follow—up (9.1%)
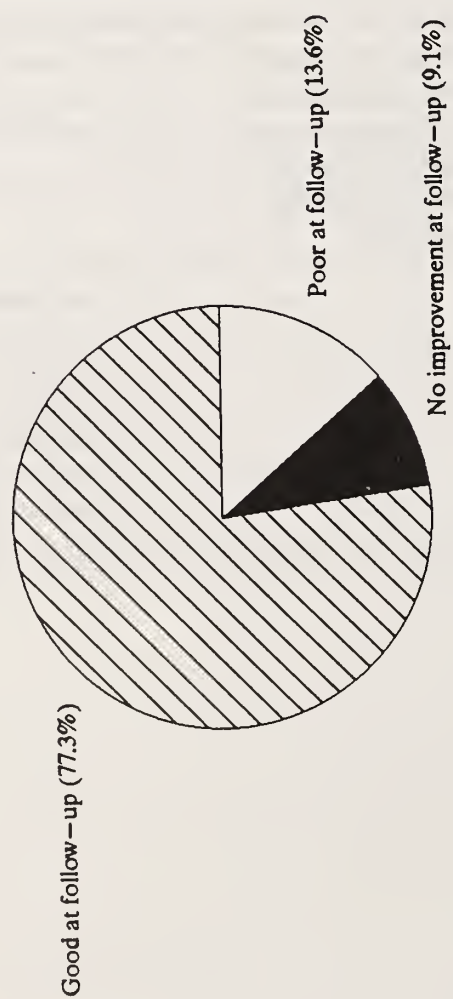
Figure 2. Status of Clients at Discharge by Status at 12-Month Follow—up:
No improvement status at discharge

Good at follow—up (27.3%)

No improvement (18.2%)

Poor at follow—up (54.5%)
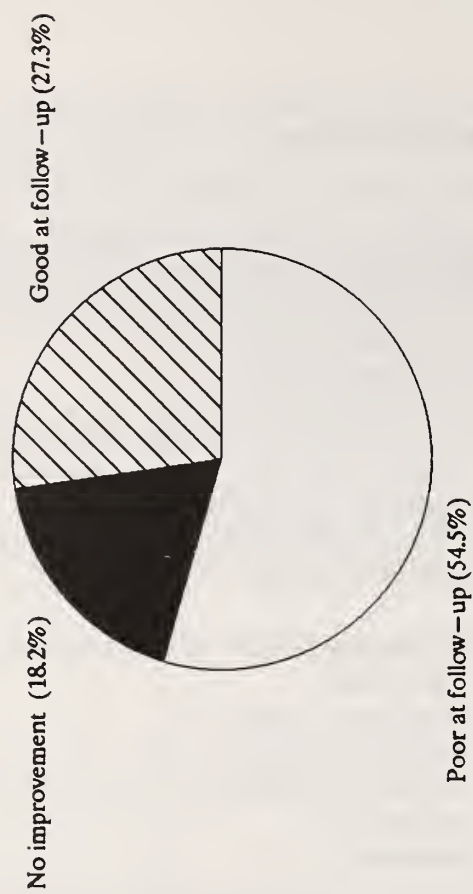
Figure 3. Status of Clients at Discharge by Status at 12-Month Follow—up:
Poor status at discharge

Poor at follow—up (100%)
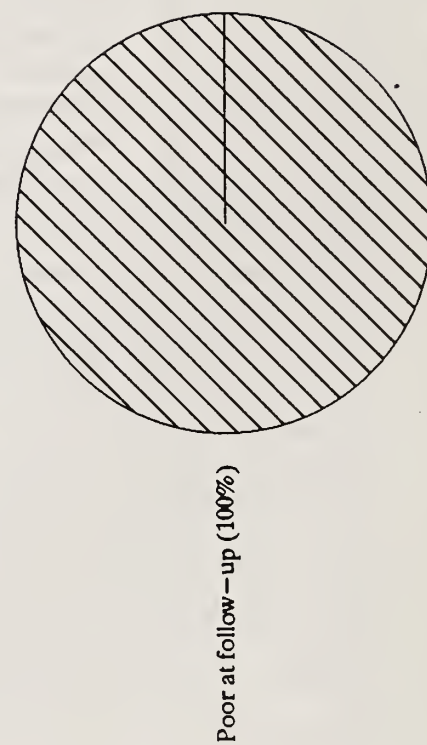
f.   How were the results used?

The information was collected in order to begin a process of monitoring 12-month outcomes as part of the collection of basic statistics. It was hoped that once data had been collected for several years, sufficient data would be available to identify those clients who seemed to respond best to the program. As well, they hoped to identify clients who did not respond to the program in order to develop better ways of reaching these people.

Methodological, measurement and ethical issues:

Methodological. Although finding clients of addictions treatment programs 12 months after treatment tends to be difficult for most programs, older people are less likely to move and are more easily tracked through the health system. Thus, this evaluation was able to achieve a high rate of follow-up information (on 36 out of 40 cases).

Measurement. Outcome status was assessed using mostly self-report by the client (although in some instances, the case worker was able to confirm the status through other sources). There may have been some respondents who did not want to report substance abuse problems because they were embarrassed, or did not want to hurt the case worker's feelings, or did not want to cause problems for the program. In each interview, the case workers stressed that they really wanted the client to be honest and that the program really wanted the outcome statistics to be accurate. Nevertheless, the results should be interpreted cautiously, as they may be positively biased.

Another source that could bias the results in a positive direction is that case workers are not objective regarding the outcome. The case workers who contacted their own clients would hope for the clients to be doing well for the client's sake and also to feel that they had done a good job. It was felt by the program manager that the clinical value of having the client contacted by his or her own caseworker, when possible, superseded the risk of bias. To reduce some of the bias, the manager assured the case workers that the results would not be analyzed separately for each worker and the manager intentionally would not ascertain the success rates of individual workers.
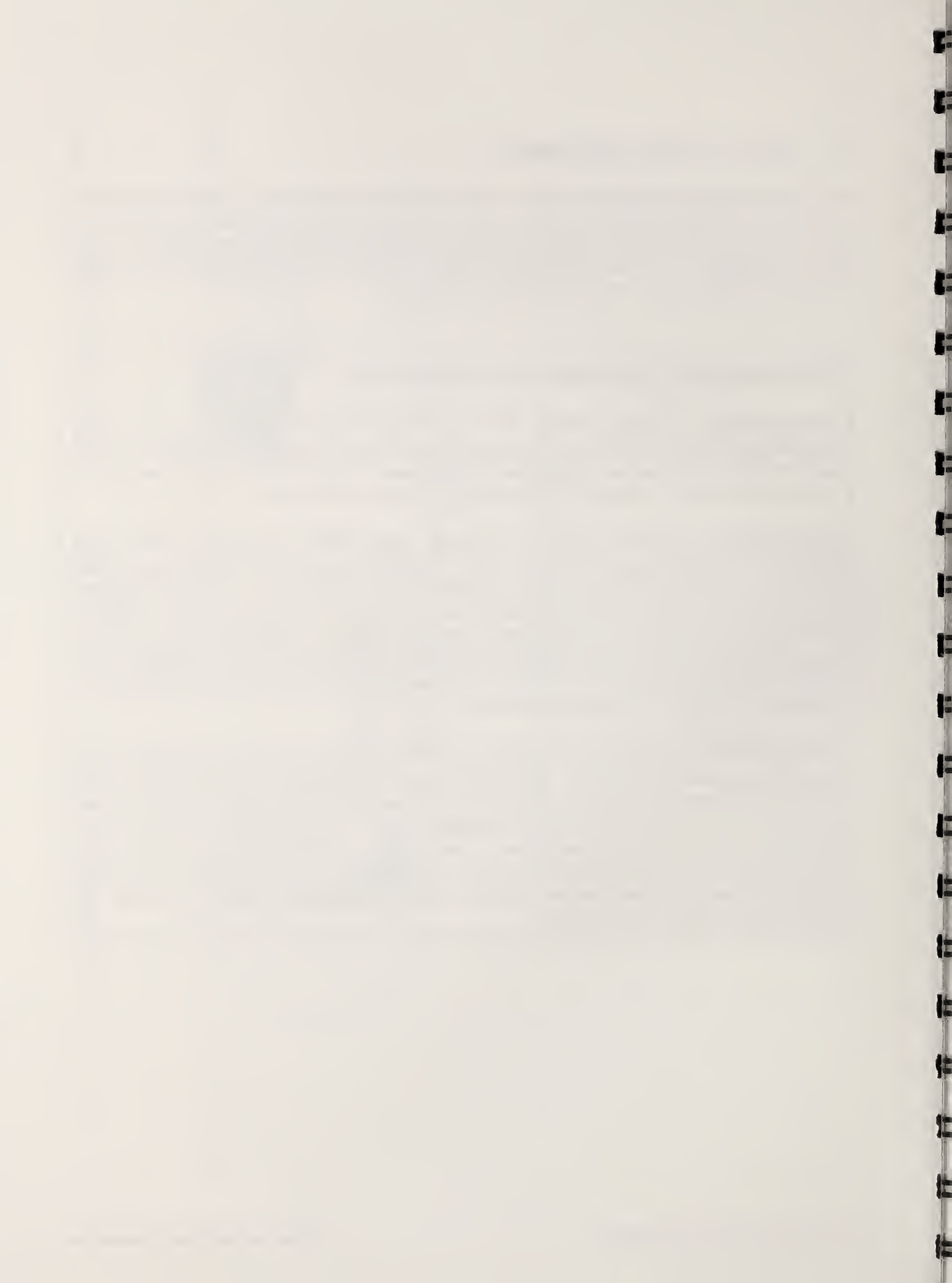
Part 4. Client Characteristics by Program Delivery

Did clients who had accommodation problems receive more hours of service overall than those who did not have accommodation problems?

Did clients who had accommodation problems require more hours of service with other people on their behalf?

a. Who was asking the questions and why did they want this information?

The case workers in the program had the perception that resolving accommodation problems for clients was taking a lot of their time. For clients who had accommodation problems, the case worker had to spend considerable time problem-solving with the client, advocating or interacting in other ways with owners of rental property, investigating various options for subsidized housing, involving family members in trying to find a solution, and engaging in other activities directed towards resolving accommodation problems. The **program manager and staff** (with the support of the **board**) decided to investigate this issue. The first step in the process was to identify the proportion of clients who had problems in accommodation (described in Part 1 of this example). The next step was to estimate the extra time involved in resolving accommodation problems. They did not have exact information with respect to the time spent directly on accommodation problems, since a contact with a client or family member might include problem solving about accommodation as well as the discussion of several other issues. Therefore, they framed a question that could provide a partial answer to their concern - namely, did clients who had accommodation problems receive more services than those who did not?

b. What resources were needed to collect and interpret the information?

The rating of clients as to whether or not they had accommodation problems had been collected during assessment. These data as well as data regarding hours of service had already been entered into the computer. The program secretary spent about two hours extracting and summarizing the information required to address the questions used in this part of the evaluation.

c.   *How were the data collected?*

Addressing the question required examining data already collected in Parts 1 and 2. The logs of client-related activities had allowed the program to estimate the average number of hours of direct service provided to the client as well as hours of service to others about the clients.

d.   *How were the data analyzed?*

The data from the logs of client-related activities had already been entered into Lotus 1-2-3. These logs were then divided into those clients who had accommodation problems and those who did not. The average number of hours of service for client contacts and for contacts with others about the client were calculated for the two groups.

e.   *What did they find out?*

Of 75 clients assessed, 25 had identified accommodation problems. Table 1 shows the average number of contact hours during the year of the study for clients who had accommodation problems compared to those who did not have accommodation problems. In general, those clients who had accommodation problems tended to require more hours of service than those who did not have accommodation problems. The same results are shown in a bar graph form in Figure 1.

Table 1. Average Number of Contact Hours for Clients Who Had Accommodation Problems Compared to Clients Who Did Not Have Accommodation Problems

	Contact hours for clients who had accommodation problems n=25	Contact hours for clients who did not have accommodation problems n=50
average number of total contact hours per client	12.3	9.2
average number of contact hours with the client only	6.0	5.7
average number of contact hours with both the client and someone else	3.1	2.1
average number of contact hours with someone else about the client	3.2	1.4

Figure 1. Average Number of Contact Hours (Clients Who Had Accommodation Problems Compared to Clients Who Did Not Have Accommodation Problems)
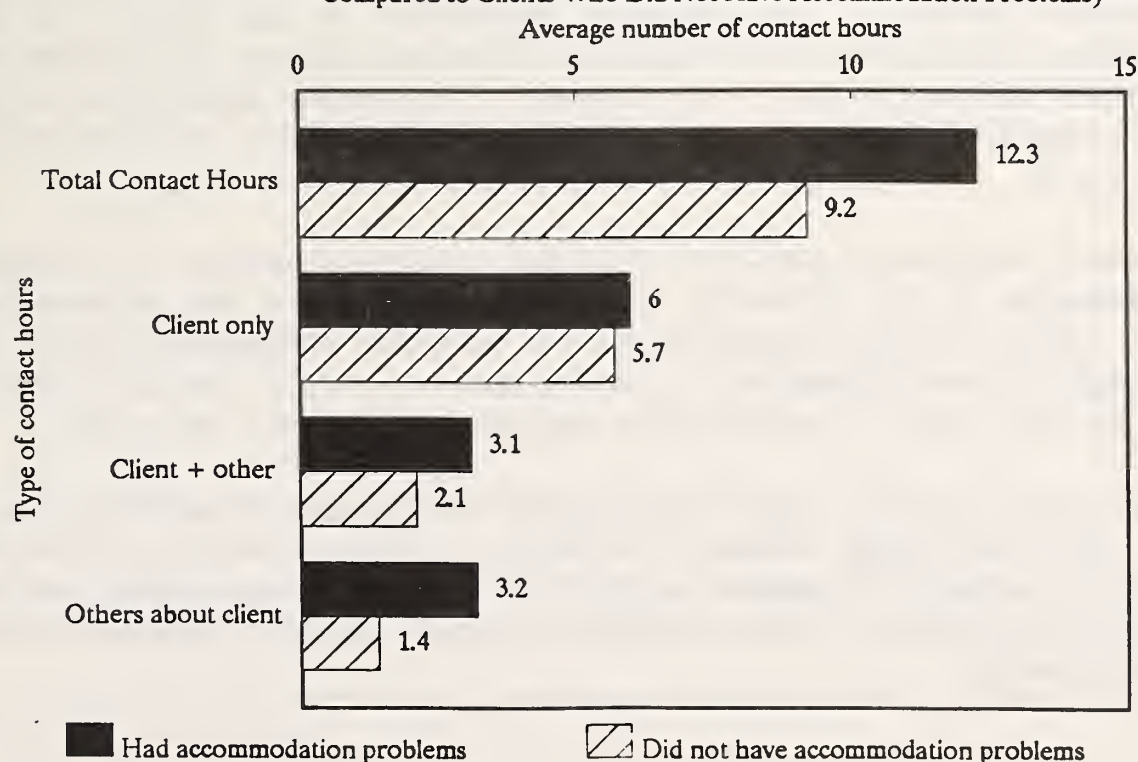
f.   How were the results used?

The results confirmed the perception that those who had accommodation problems received more services. In particular, the workers spent more time meeting with others on the client's behalf for clients who had accommodation problems. The average number of hours of direct service to the client alone, however, was similar regardless of whether or not the clients had accommodation problems.

The results had at least two implications for the program. First, if the program continued to see a fairly large proportion of clients who had accommodation problems, it might be cost-effective to spend time further exploring accommodation options in the community and lobbying for better or more appropriate options.

Second, if no changes occurred in the way cases were handled, program planning should incorporate the expectation that clients who had accommodation problems were more likely to need extra hours of service.

Methodological, measurement and ethical issues:

Methodological. Although the data showed that those who had accommodation problems required more services, it is only an assumption that these extra services are *because of the accommodation problems*.   An alternative explanation is that those who have accommodation problems are more likely to be skid row type drinkers, and therefore have many lifestyle problems that need to be addressed. It is possible that the extra hours of service are because of the deteriorated state of the client rather than the accommodation problems, per se.

Measurement. Measurement was kept fairly simple to allow the program to accomplish a quick examination of the relationship between hours of service and accommodation problems. Clients were only categorized into two categories: problem/no problem. The findings might be more informative if a severity scale was used to rate accommodation problems and if the nature of accommodation problems was included in the analyses.

On the other hand, this fairly simple evaluation allowed the program to address an issue of interest.   Since the findings indicated a difference in level of service to those with accommodation problems, the program might choose to monitor accommodation problems in more detail in the future in order to identify the specific aspects of treatment that were most time-consuming.

J. Detox Needs Assessment and Evaluation

Program: A new detox program was set up to provide non-medical detox services for both men and women in the county. The program has 16 beds, two of which are allotted to individuals from outside the county. The average length of stay at the unit is three days. Individuals are generally admitted in order to detoxify, and assessments for subsequent treatment are sometimes completed while they are at the detox.

The needs assessment (Part 1) was completed a number of years ago, and the detox program proposal accepted two years ago. The unit received funding from the Ministry of Health one year ago.

This example includes quality enhancement questions for three levels of evaluations, including the needs assessment that was done originally in planning for the program:

Part 1.   Needs Assessment

Part 2.   Client Characteristics

Part 3.   Program Delivery.

Level of difficulty: moderate
Level of resources needed: moderate

Part 1. Needs Assessment

Were some clients of the local assessment/referral and day treatment programs who appeared to need detoxification unable to obtain detox services because of problems associated with the location of outlying detox programs?

What were the policies of detox programs in adjacent counties regarding referrals from outside their catchment areas?

To what extent did clients who attended detox programs in other counties experience problems related to the distant location of the detox programs?

a.   *Who was asking the questions and why did they want this information?*

A **county-wide substance abuse task force** comprised of service providers, concerned citizens, staff of the county District Health Council (DHC) and addictions consultants organized the needs assessment to evaluate the need for a local detox program.

Although there were detox services available in two adjacent counties, there was some concern that these services were not adequate. First, the distance to these programs posed transportation or other problems for potential users. Second, these services primarily served their own counties and had limited space for persons from other counties. Finally, it appeared that those who obtained detox services outside of the community were not linked to local treatment programs as often as believed optimal by the task force.

The local assessment/referral program and day treatment program agreed to help in analyzing the detox needs of the clients they had seen during the previous two years. While this did not allow for a description of all potential users of detox services, it provided at least some data that could be used to assess local need.

b. What resources were needed to collect and interpret the information?

A university student was hired by the DHC on a full-time basis for the summer (four months). The job entailed designing the evaluation, constructing and coding questionnaires, gathering data, entering the data in the computer, completing the data analyses, and generating a report. As well, one staff member of the DHC spent 40 hours training and supervising the student.

In addition to the student and DHC staff time, the program managers of the county assessment/referral and day treatment programs had agreed to assist the student in gathering information from previous clients. The secretary of the assessment/referral centre spent 15 hours retrieving information from a computer database, reviewing case files, generating a mailing list, and mailing out the questionnaires provided by the student. The program administrator of the day treatment program spent six hours reviewing hand-tabulated information, and the secretary spent two hours generating a mailing list and mailing out questionnaires.

c. How was the information collected?

The first task was to determine how many clients of the assessment/referral and day programs had been identified as needing detox, and, of these, how many actually went to a detox program. Client records over the previous two-year period were reviewed to determine who had been referred to out-of-county detox services, as well as the proportion of clients for whom detox arrangements could not be made despite an apparent need. Reasons were noted for those clients who had been recommended to use detox services but did not use them.

The second task involved sending questionnaires to clients of the assessment/referral program or the day program who used an out-of-county detox program. In the questionnaire, respondents were asked to rate a number of potential problems resulting from the need to use out-of-county detoxes on a scale of 1 to 3: (1) Not at all a problem; (2) Somewhat of a problem; and (3) Very much a problem. Additional comments were also encouraged (see questionnaire at end of this section).

The questionnaires were mailed by the assessment/referral and day treatment programs to those clients who had used out-of-county detox services. The secretaries of the two programs addressed the questionnaires and mailed them to relevant clients (along with a self-addressed stamped envelope for returning the completed questionnaire to the student). Because the response rate to mail questionnaires tends to be low, the secretaries also sent two mailings of follow-up reminders regarding the questionnaire. Questionnaires were numbered so that if one person returned more than one questionnaire, only the first one was used in the analyses (i.e., at all three mailouts, person 1 would receive questionnaire 1, and so on). Pre-addressed, postage-paid return envelopes were provided so that postage was paid only on those

questionnaires that were returned. In this way, all responses were kept anonymous and the student had no access to the names of clients in the two programs.

Finally, the student interviewed the executive directors of the two out-of-county detox programs to which clients of the assessment/referral and day treatment programs had been referred. Specific information gathered from these interviews included the percentage of out-of-county clients admitted, the number of counties from which referrals were made, and the procedures used with out-of-county referrals in terms of intake and follow-up.

d.   How were the data analyzed?

Information from the completed questionnaires was coded and entered in the computer and analyzed using EPI INFO (see Appendix A). Average ratings in response to each question were calculated. Additional comments were summarized in the report. Information from treatment programs about individuals who did not use existing detox services despite an apparent need, and interview data from the directors of the out-of-country detox programs were summarized in the report.

e.   What did they find out?

Two hundred and ten individuals were identified by the assessment/referral centre or the day treatment program as needing detoxification services during the previous two years. Of these, 165 (79%) had used out-of-county detox services, and 45 (21%) received no detox services.

Of the 45 clients who did not use detox services despite an apparent need, 18 (40%) did not use the outlying detox services because of lack of transportation; 15 (33%) were denied admission due to lack of space within the detox program; nine (20%) were denied admission because they had been using drugs which the detox did not feel equipped to handle (e.g., cocaine, heroin, LSD); and three (7%) were denied admission because they required medical attention and the services were strictly non-medical.

Of the 165 individuals who were sent questionnaires regarding their experiences with detoxes, 100 (61%) returned completed questionnaires. The average ratings for all potential problems indicated at least a moderate problem level. Table 1 summarizes the average ratings of problems potentially experienced by clients who attended an out-of-county detox program.

Table 1. **Average Ratings of Problems Associated with Attending an Out-of-County Agency**

	Average problem rating (1 - not at all a problem; 3 - very much a problem)
lack of transportation	2.4
being too far away for family and friends to visit	2.5
feeling lonely and isolated	2.6
no involvement in local services (e.g., AA, NA)	2.5
no information about further treatment	2.3
no plan for further treatment	2.1
no follow-up	2.2

The two out-of-county detox programs had similar policies. Both detox programs allotted only 15% of their beds to clients from outside their catchment area and both received referrals to these beds from 10 counties.

For those detox clients who attended from outside the programs' catchment areas, formal arrangements for treatment and follow-up services in the clients' home county were rarely made. Clients from within the detoxes' catchment area, however, were often assessed while in detox and admitted directly to treatment programs upon discharge. As well, one of the detox programs included follow-up of all clients from its own catchment area on a regular basis (one and three months after discharge) to assess the status of clients and to find out whether clients had attended treatment. No follow-up of clients from outside their main catchment area was done by either detox.

f. How were the results used?

The results from this needs assessment provided support for the development of a local detox. The task force developed a proposal to be submitted to the Ministry of Health for a local detox. Since development of the detox took several years, steps were taken, in the interim, to provide better co-ordination with the two out-of-county detox programs. The program administrators from the assessment/referral and day treatment programs made presentations to detox staff to inform them about the available treatment and self-help services and contacts in this county. The detox programs and the two treatment programs formalized a system of referral from detox directly to these programs.

Methodological, measurement and ethical issues.

Methodological. For a mailed-out questionnaire, the return rate was fairly high (61%). The positive response may have been due to the follow-up reminders, the short easy format of the questionnaire, and the pre-addressed postage-paid envelopes provided with the questionnaires. All of these are factors that are known to increase response rates. While the additional follow-ups add to the cost of the project, maximizing the response rate is critical in obtaining valid information. Even a response rate of 61% could reflect bias. For example, those who returned questionnaires may have been more likely to have found using out-of-county detox services problematic; while those who experienced fewer problems may have tended not to bother returning the questionnaires. Therefore, the results needed to be interpreted as possibly overestimating the demand for local detox services.

Ethical. Since the staff of the assessment/referral and day treatment programs reviewed client files and mailed the questionnaires, it was possible to maintain client confidentiality. This method ensured that no one outside the two treatment programs had access to client names.

Follow-Up on Users of Out-of-County Detox Programs

Conducted by the _____ Assessment and Referral Program (or the _____
Day Treatment Program) on behalf of the _____ County Substance Abuse Task Force.

Please rate the degree to which you experienced the following problems while attending detox outside this county:

	Not at all a problem	Somewhat of a problem	Very much a problem
Lack of transportation	1	2	3
Being too far away for family and friends to visit	1	2	3
Feeling lonely and isolated	1	2	3
No involvement with local services (e.g., AA, NA)	1	2	3
No information about further treatment	1	2	3
No plan for further treatment	1	2	3
No follow-up	1	2	3

Do you have any additional comments regarding your experience using detox services?

_____

_____

_____

_____

Thank you!

Level of difficulty: moderate
Level of resources needed: moderate

Part 2. Client Characteristics

Did clients who reported experiencing sexual or physical abuse enter the detox program more often than clients who reported no abuse?

a.   Who was asking the question and why did they want this information?

People admitted to detox were asked routinely whether they had ever experienced sexual or physical abuse. Where possible, detox staff attempted to refer those who had experienced abuse to counselling or a support group in the community. Some clients did not want a referral. For those who did, the kind of help they felt they needed was often not available.

Intake statistics indicated that a high proportion of detox clients (48%) reported having been sexually or physically abused. There were limited resources available in the community, however, for counselling people with abuse histories, particularly those who were also experiencing problems with alcohol and drug abuse. The **director and staff** had observed that clients with abuse histories seemed to be admitted more frequently to the detox. They hypothesized that one reason for more frequent admissions was that abused women and men were not receiving the help they needed elsewhere, and continued to use alcohol and other drugs to cope with abuse issues.

b.   What resources were needed to collect and interpret the information?

The detox program had implemented a customized computer database program that allowed them to record client intake information, as well as tracking client readmissions. The program staff member who maintained the database was asked to conduct the analyses required to assess whether clients who had abuse histories had been readmitted more frequently during the previous year. The data analyses (using the customized program) and preparation of summary graphs (using Harvard Graphics [see Appendix C]) required approximately two hours.

c.   *How were the data collected?*

Data were collected as part of the detox operation.

d.   *How were the data analyzed?*

The detox used a customized computer program that automatically calculated the number of admissions per year. To address the current question, the average number of admissions was calculated separately for those who reported abuse and for those who did not report abuse. The analyses were also calculated separately for males and females.

Harvard Graphics was used to produce bar graphs.

e.   *What did they find out?*

Of the 480 clients who had used the detox during the previous year, 228 (48%) reported that they had been sexually or physically abused at least once in the past. Among female clients, 78% (47 out of 60) reported a history of abuse; for men, the rate was lower, with 43% (181 out of 420) reporting a history of abuse (see Figure 1, produced using Harvard Graphics).

Those who reported a history of abuse had been admitted to the detox an average of 3.1 times during the past year; whereas clients who reported no abuse had been admitted an average of 1.6 times (see Figure 2). Male clients had been admitted to detox an average of 2.3 times during the past year, and female clients an average of 2.2 times (see Figure 2). Separate analyses for males and females indicated that a history of abuse increased the average number of admissions for both males and females. Figure 3 illustrates in bar graph form the average number of admissions of male and female clients who reported a history of abuse compared to those who did not.

Figure 1. Percent of Male and Female Detox Clients Reporting a History of Abuse
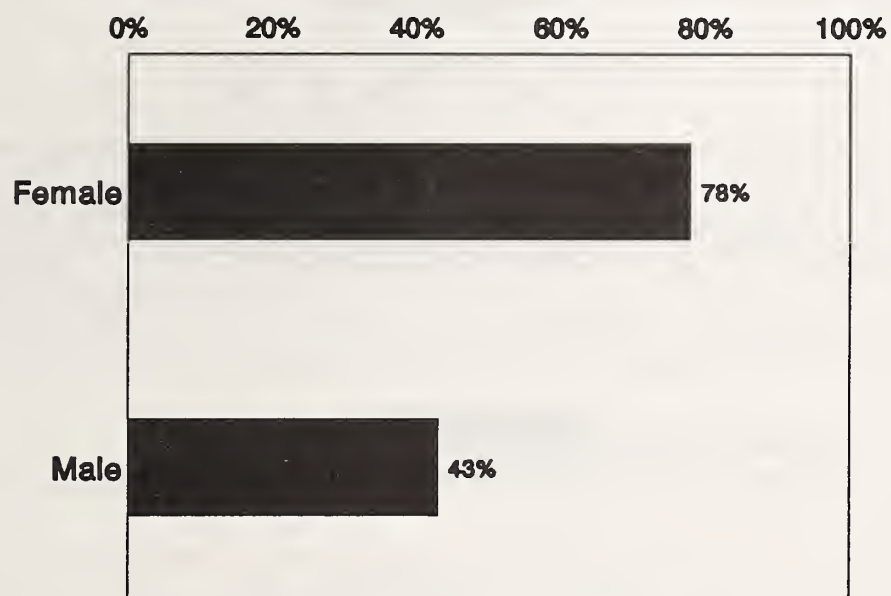
Figure 2. Average Number of Admissions to Detox in One Year by History of Abuse and Gender of Clients
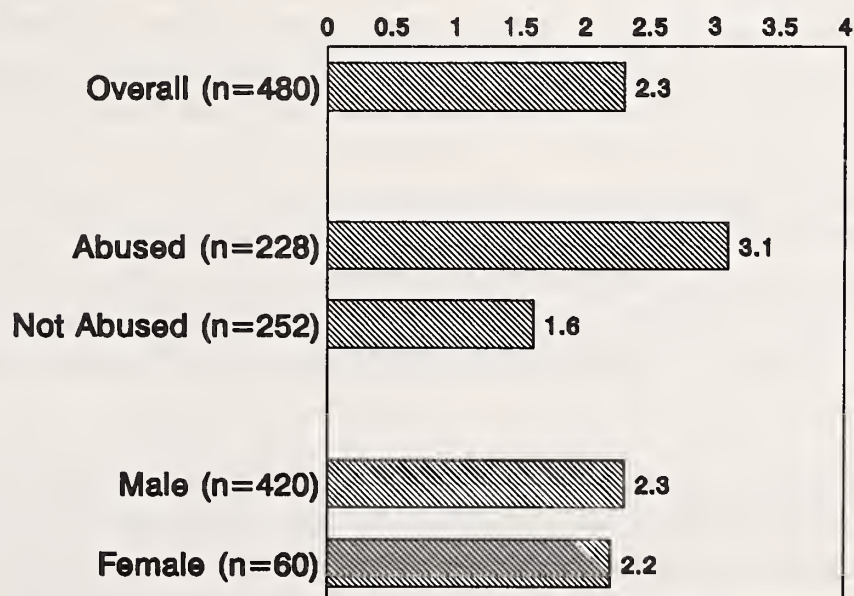
Figure 3. Average Number of Admissions to Detox in One Year for Clients with and Without a History of Abuse (Male Compared to Female Clients)

```
        0    0.5   1    1.5   2    2.5   3    3.5   4

History of abuse  ████████████████████████████ 3.4
                  ░░░░░░░░░░░░░░░░░░░░░ 2.5


No history of abuse  ██████████ 1.5
                     ░░░░░░░ 1.1
```

■ Male (n=420) ▧ Female (n=60)
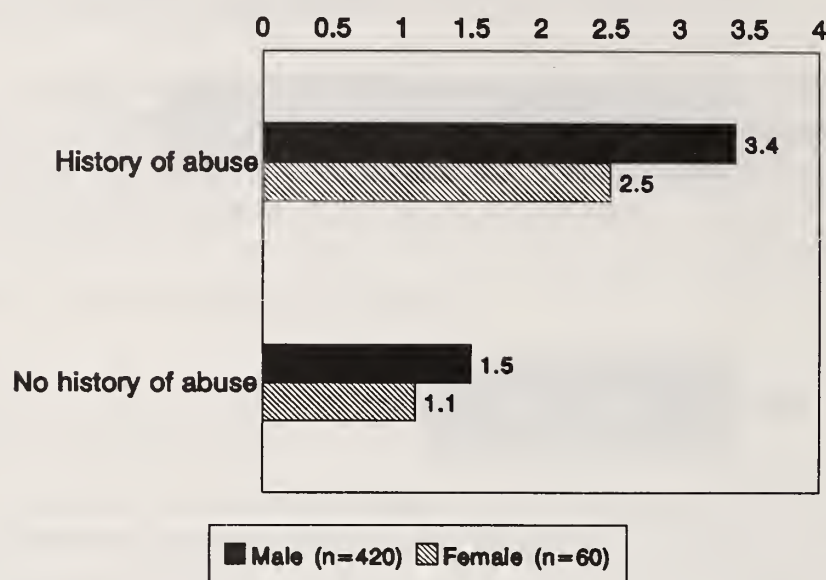
f.   How were the results used?

The data provided confirmation of the staff's impression that clients who had been abused were admitted to the detox more often. The staff and director felt they had sufficient evidence to devote some time to improving services for clients who had abuse histories and substance abuse problems. The director committed time to seeking out additional community services willing and qualified to counsel these clients. The director also intended to use this time to raise awareness in the community (among both addictions treatment services and services for battered or sexually abused men and women) about the link between abuse and alcohol and drug problems. To further these ends, the director made presentations to the DHC, addictions programs, women's programs, and other community groups and was able to obtain some media exposure.

The results of these efforts included the following: the identification of five additional services prepared to accept male and female detox referrals for counselling regarding sexual and physical abuse; the development of a one-day workshop where staff of women's programs and addictions treatment programs met to share their expertise and develop better linkages for women needing both types of services.

Level of difficulty: difficult
Level of resources needed: heavy

Part 3. Program Delivery

Did pre-treatment counselling (including a longer stay) at detox increase the proportion of clients who accepted treatment referrals and reduce the average rate of readmissions?

a.   Who was asking the question and why did they want this information?

The **board** requested that the director and staff investigate pre-treatment counselling as a way to increase referrals to addictions treatment. While part of the detox's function is to provide a safe haven for the inebriated person, the detox is also supposed to function as a first step in linking people to treatment. The program staff had provided referrals to treatment where possible, but had little time to counsel clients and facilitate entry to treatment. The detox was able to secure one-year funding for an extra person to provide pre-treatment counselling (both individual and group counselling, as appropriate) for clients at the detox. This person would also identify treatment needs and encourage referrals to treatment. Although this counselling was likely to increase the length of stay in detox, it was hoped that the longer length of stay would be counteracted by more clients entering treatment (increasing the likelihood that they would resolve substance abuse problems) and fewer clients being readmitted.

b.   What resources were needed to collect and interpret the information?

First, the project involved an extra full-time person who provided pre-treatment counselling. This person also trained other staff to do pre-treatment counselling and conducted follow-up with programs to which clients were referred to find out whether clients entered and completed the program.   In addition, at the end of the year during which pre-treatment counselling was provided, the program secretary spent six hours compiling statistics and preparing graphs regarding the proportion of clients referred for addictions treatment, average length of stay, and number of readmissions during the three years preceding the pre-treatment year compared to during the pre-treatment year. The detox already used a customized computer database that contained all the necessary information.

c.   *How were the data collected?*

Statistics regarding referrals and readmissions were kept as a routine part of the detox operation. During the year of pre-treatment counselling, the counsellor followed up all referrals and kept records of referrals accepted by clients (including whether they entered and whether they completed the program to which they had been referred).

d.   *How were the data analyzed?*

The secretary generated the following statistics from a customized computer database: proportion of clients referred for addictions treatment, average length of stay (in days) at detox, and average number of readmissions per client. The counsellor calculated the following by hand: the proportion of referrals where the client entered the program to which he or she had been referred and the proportion of referrals where the client received a satisfactory discharge from the program. While statistics were kept on all referrals made, only referrals to addictions treatment programs are included in the present analyses.

Area graphs showing the results were generated using Harvard Graphics (see Appendix C).

e.   *What did they find out?*

Statistics for the three years prior to the pre-treatment counselling program and for the year of the program are reported in Table 1. The same results are shown in graphic form using Harvard Graphics in Figures 1, 2 and 3.

These results indicated that the program had achieved some success. More clients were being referred to treatment, and although the length of stay had increased slightly, the number of re-admissions had decreased by over a half.

Table 1. **Proportion of Clients Referred for Addictions Treatment, Average Length of Stay, Average Number of Readmissions**

	Year 1	Year 2	Year 3	Year of pre-treatment counselling program
proportion of clients referred for addictions treatment (all admissions)	20%	24%	19%	39%
average length of stay (all admissions)	3.2 days	2.9 days	2.9 days	4.4 days
average number of readmissions (excluding first admission)	1.3	1.6	1.4	.6

Figure 1. Percent of Detox Clients Referred for Addictions Treatment (Year of Pre-Treatment Counselling Compared With the First Three Years of Operation of the Detox)
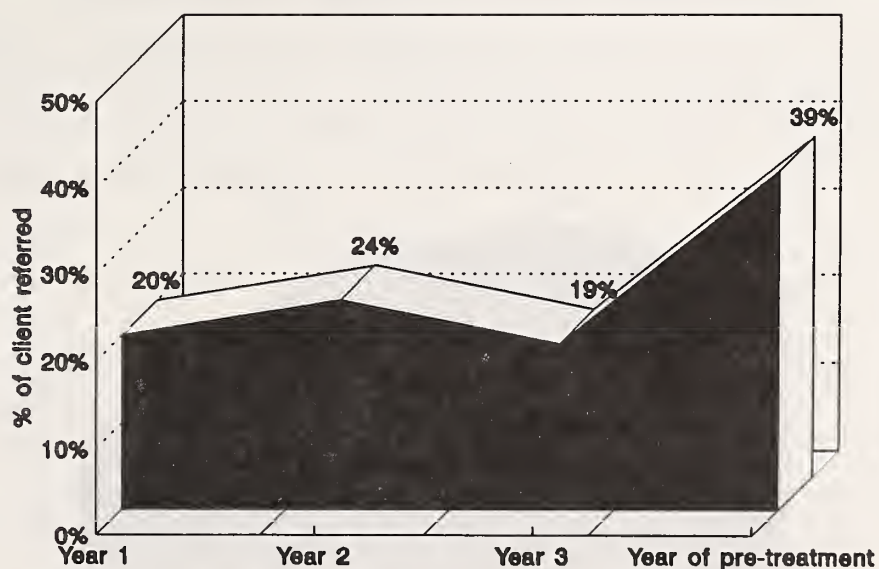
Figure 2. Average Length of Stay at Detox (in Days)
(Year of Pre-Treatment Counselling Compared With
the First Three Years of Operation of the Detox)
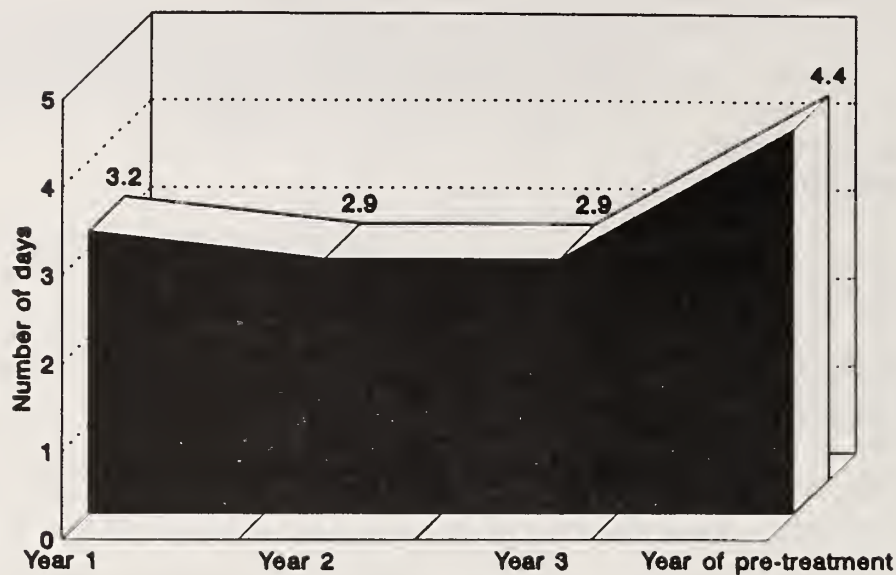
Figure 3. Average Number of Readmissions to Detox
(Year of Pre-Treatment Counselling Compared With
the First Three Years of Operation of the Detox)
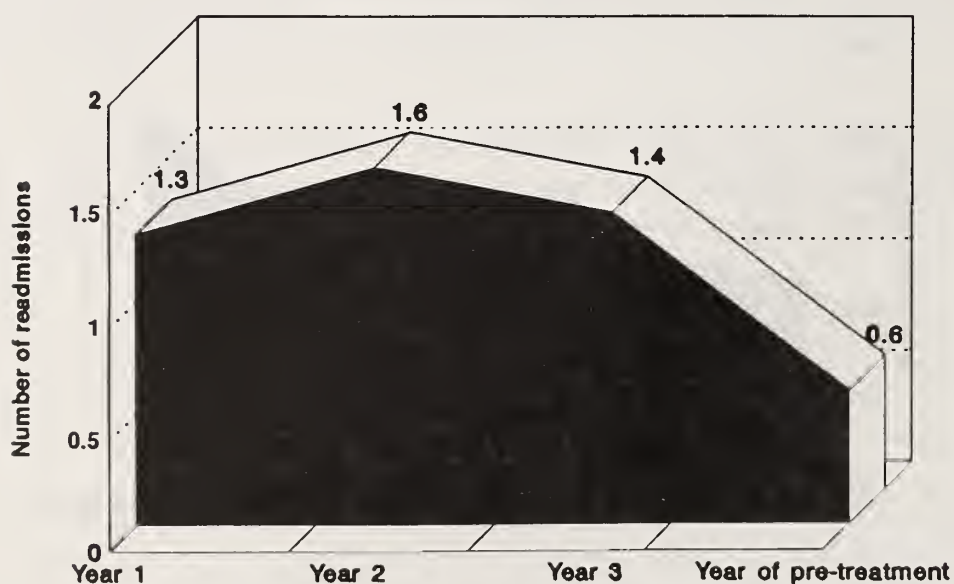
According to the information collected in follow-up interviews with clients who had been referred for addictions treatment, 85% said they followed through on the referral and 78% reported receiving a satisfactory discharge from the program. In this project, the counsellor completed follow-ups only with clients (not with the agencies to which clients had been referred). Example F describes issues regarding follow-up with both clients and agencies. Although no statistics were available regarding follow-through on referrals from previous years, results suggested a high rate of successful referrals.

f.   How were the results used?

The results confirmed the usefulness of pre-treatment counselling. Because readmissions were down, it was felt that the staff would now be able to direct more time to pre-treatment counselling. Although this could not be done as easily as when a full-time person was available for the task, the program director felt that they could do a reasonably good job of it now that detox staff were trained and had a little more time for the counselling. However, they would continue to monitor the effectiveness of the pre-treatment counselling program in terms of referral and re-admission rates.

Methodological, measurement and ethical issues:

Methodological. There are annual variations in referrals and readmissions that occur by chance. Therefore, it was important to compare pre-treatment effects of several years, not just the year before. While the effect of pre-treatment counselling appeared large, it is important to continue monitoring the effect to ensure that the results are stable and not just attributable to chance or to the specific counsellor who was hired for the one-year period.

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K. Assessment/Referral Program

Program: The program is a substance abuse assessment/referral service. The mandate of the program is to perform a comprehensive assessment on every client and to refer clients to appropriate services. Services offered by the program are intake, assessment, referral, case management, brief counselling, and community education and development.

Initial contact can be made with the program by other agencies on a person's behalf (formal referral) or by a person directly contacting the program (self-referral). A two-hour assessment interview is scheduled at this point. There is generally a two to three month waiting list of people to be assessed. However, there are sometimes exceptions to this and clients may be given an appointment sooner. Once assessed, clients may be referred for case management, substance abuse treatment, or other services. Some require no further service after the assessment.

This example includes quality enhancement questions for four levels of evaluation:

Part 1.   **Logic Model**

Part 2.   **Program Delivery I**

Part 3.   **Program Delivery II**

Part 4.   **Consumer Satisfaction - Agency Survey.**

Part 1. Logic Model
PROGRAM LOGIC MODEL FOR ASSESSMENT/REFERRAL PROGRAM

MAIN COMPONENTS	Intake	Assessment	Referral	Case Management	Brief Counselling	Community Development
IMPLEMENTATION OBJECTIVES	To obtain basic information on all referrals	To complete the standard assessment format on all clients who show for assessment	To refer clients to appropriate services in the community	To provide follow-up contact once a month for six months / To provide crisis intervention as needed	To provide brief counselling to early stage problem drinkers	To give talks on services to community groups / To sit on local planning committees
OUTPUTS	# of referrals / # showing for assessment / Characteristics of clients	# of complete assessments / Characteristics of clients	# referred to various agencies / Characteristics of clients	# of various types of contacts (mode & content) / Characteristics of clients	# and characteristics of cases counselled	# and type of presentations / Size of audiences / # of planning committees
SHORT-TERM OUTCOME OBJECTIVES	To prevent drop-out/no shows	To increase the client's motivation to enter treatment / To maximize the number of clients who complete treatment			To reduce frequency and quantity of alcohol/drug consumption	To maximize # of referrals / To improve local services
OUTCOME INDICATORS	% of clients who show for assessment	% of clients who increase motivation / % of clients who complete treatment			% of clients who reduce substance abuse	% of referrals to A/R service
LONG-TERM OUTCOME OBJECTIVES		To increase the number of clients who maintain long-term recovery from substance abuse			To prevent development of serious alcohol/ drug dependence	
LONG-TERM OUTCOME INDICATORS		Proportion of clients who maintain long-term recovery			Proportion of early stage problem drinkers who develop serious dependence	

*Taken from course materials of Program Evaluation Course (May 3-5, 1993, London, Ontario).

Assessment/Referral Program

Level of difficulty: moderate
Level of resources needed: moderate

Part 2. Program Delivery I

> ### *What was the average number of days between intake and first scheduled assessment appointment?*
>
> ### *What proportion of referrals attended the originally scheduled assessment interview?*
>
> ### *What proportion of referrals were assessed on a subsequent appointment?*
>
> ### *Overall, what proportion of assessment appointments resulted in no-shows?*

a.   Who was asking the questions and why did they want this information?

The **program manager and staff** had been concerned that many of those who scheduled an assessment did not keep the appointment. While all no-shows caused inconvenience, no-shows for assessment appointments resulted in considerable inefficiency. Each initial assessment appointment scheduled was allotted 3.5 hours of counsellor time for intake, assessment interview, liaison with referral source and other involved parties, report writing, and treatment planning. Although the time was used for other purposes when a client did not attend the appointment, the amount of time that needed to be allotted to initial assessment limited the number of assessment appointments that could be scheduled for any particular day, and consequently limited the number of new admissions to the program.

The program manager had decided to implement group orientation sessions to try to reduce drop-out between intake and assessment and to reduce the number of assessment appointments where the client does not show up. Before undertaking this program change, basic statistics on no-shows for initial assessment appointments were calculated for a one-year period.

b. *What resources were needed to collect and interpret the information?*

In order to keep statistics on appointments and attendance, a computer and customized software were needed. The software was designed to extract program information such as days lapsed between date of intake and date of assessment appointment, attendance at appointments, and so on.

The program secretary maintained the database on appointments and other services and updated it daily. It took the secretary several hours to extract the statistics required to address these questions (based on data entered into the computer during the previous year) and to prepare graphs using Harvard Graphics.

c. *How were the data collected?*

Attendance data were recorded on daily appointment logs kept by the assessment workers. The intake worker kept a record of the date of the initial intake and the date of the initially scheduled assessment appointment. If a change was made in the date of the initial appointment, the intake worker reported this to the secretary who updated the information in the database.

d. *How were the data analyzed?*

The information required for this evaluation already existed in the database. The program secretary computed descriptive statistics for the following:

(a)   average number of days between intake and first scheduled assessment appointment
(b)   proportion of referrals who attended the originally scheduled assessment appointment
(c)   proportion of referrals assessed at a later appointment
(d)   overall proportion of assessment appointments where the client did not show.

Harvard Graphics (see Appendix C) was used to generate a graphical presentation of the results in pie graph form.

e. *What did they find out?*

There were 984 clients who scheduled at least one assessment interview during the one-year period. The average length of time between intake and the first assessment appointment was 67 days. Of the 984 clients who scheduled assessment interviews, 44% attended the originally scheduled appointment, 17% attended a later appointment, and 39% scheduled one or more appointments but never attended (see Table 1). Figure 1 shows these proportions as a pie chart

using Harvard Graphics (see Appendix C). Including rescheduled assessment appointments, 1,725 assessment interviews were scheduled for 984 clients during the one-year period.

Table 1. **Proportion of Clients Who Attended the Original Assessment, a Later Assessment, or Did Not Attend Assessment**

	Number and % of clients
clients who attended originally scheduled assessments	430 (44%)
clients who attended assessment at a later appointment	168 (17%)
clients who scheduled one or more assessment interviews, but never attended	386 (39%)

Figure 1. Proportion of Clients Who Scheduled at Least One Assessment Interview and Attended the Originally Scheduled Appointment, a Later Appointment, or Did Not Attend an Appointment
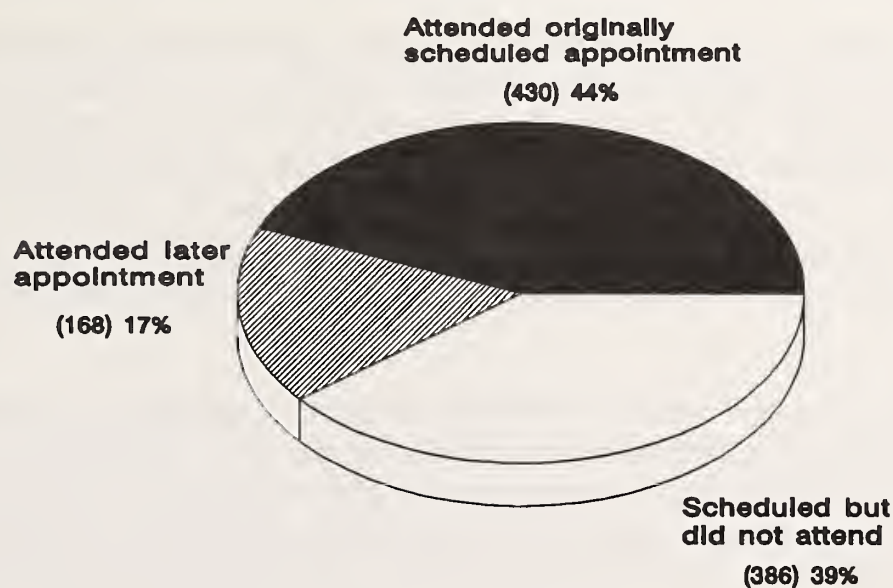
f.   How were the results used?

The results indicated that the current intake component needed to be improved in order to meet the short-term objective of preventing drop-out/no-shows. The program manager decided to proceed with adding group orientation to the intake phase of the program. Since decreasing the number of clients who did not show up for initial assessment would increase the number of new clients who could be assessed, adding the orientation component would be expected to decrease the waiting list. As well, clients who completed assessment would be more likely to begin the treatment process and more likely to achieve long-term recovery from substance abuse. Therefore, increasing the proportion of clients who completed assessment would be expected to improve the ultimate outcomes of clients.

> Level of difficulty: moderate
> Level of resources needed: moderate

Part 3. Program Delivery II

> *To what extent did requiring attendance at two group orientation sessions before scheduling the assessment interview reduce the rate of dropout between intake and assessment?*
>
> *To what extent did the requirement to attend group orientation reduce the rate of no-shows at the originally-scheduled assessment?*
>
> *To what extent did adding group orientation to the intake phase of the program result in a reduction in the waiting list period between intake and assessment?*

a.   Who was asking the questions and why did they want this information?

It is the short-term objective of the intake component of the addiction assessment/referral centre to prevent no-shows/drop-outs at the assessment. In Part 2 of this example, baseline statistics indicated that almost 40% of referrals dropped out between intake and assessment (i.e., scheduled but never attended assessment). It was decided by the managers and the board to add two group orientation sessions to the intake component of the agency. The objective of these sessions was to introduce clients to the services offered by the agency and to provide some immediate response to clients who were having to wait a long time for an assessment appointment.

Since attendance at the sessions would allow personal contact between clients and agency staff within one month following the initial contact, it was hoped that this personal contact would reduce the number of people who dropped out between intake and assessment and increase the rate of attendance at the initially-scheduled assessment appointment. The process would also be more efficient because those who were really not interested in proceeding with an assessment would realize this during orientation and not schedule an assessment appointment. Fewer no-shows at assessment and fewer unwanted assessments scheduled should also reduce the waiting period between intake and assessment. Thus, the intention of the group orientations was to (a)

reduce the percentage of people who dropped out between intake and assessment, (b) decrease the number of no-shows at assessment, and (c) reduce the waiting period.

Once the orientation sessions had been in place for a year, the **program manager** had new statistics calculated regarding the rate of no-shows and the average waiting period.

b.   What resources were needed to collect and interpret the information?

The program secretary maintained and updated daily a database on appointments and other services (see Part 2 of this example for a description of the database). It took the secretary four hours to calculate the required statistics and prepare tables and graphs of the results.

c.   How were the data collected?

The date of initial intake was recorded by the intake worker. Attendance at orientation sessions was recorded by the session counsellors. The date of the initially scheduled assessment appointment was recorded by the intake worker after the second orientation session. The attendance at the assessment appointment was recorded on daily appointment logs kept by the assessment workers. If a change was made in the date of the initial appointment, the intake worker reported this to the secretary who updated the information in the database.

d.   How were the data analyzed?

The information for this evaluation already existed in the database. The program secretary computed descriptive statistics for the following:

(a)   proportion of referrals who attended at least one orientation session
(b)   proportion of referrals who scheduled an assessment appointment
(c)   proportion of referrals who attended the originally scheduled assessment appointment
(d)   proportion of referrals who were assessed at a later appointment
(e)   proportion of referrals who never attended an assessment appointment
(f)   average number of days between intake and first scheduled assessment appointment.

These statistics were then compared with those for the year before the orientation sessions were implemented.

Graphical presentation of the results were generated using Harvard Graphics (see Appendix C).

e.   What did they find out?

There were 1,062 referrals during the 12-month period following the introduction of orientation sessions. Table 1 summarizes the proportion of clients attending orientation sessions, scheduling assessment appointments, and attending assessment appointments, comparing the year with orientation sessions to the previous year. Figure 1 shows the same result in pie chart form produced using Harvard Graphics.

Table 1.   Attendance at Scheduled Appointments Before and After the Implementation of Orientation Sessions

	Before orientation sessions were part of intake	After orientations became part of intake
number of clients accepted to the program through intake	984	1,062
percent of clients attending at least one orientation	--	987 (93%)
percent of clients who scheduled at least one assessment appointment	984 (100%)	898 (91%)
percent of clients who scheduled assessment, and attended originally-scheduled appointment	430 (44%)	657 (73%)
percent of clients who attended assessment at a later appointment	168 (17%)	92 (10%)
percent of clients who scheduled assessment but never attended	386 (39%)	149 (17%)
percent of all clients who were accepted to the program who never attended an assessment	386 (39%)	313 (29%)

To assess the effects of the orientation program on the waiting period, the length of the waiting period was averaged for each quarter of the year following the introduction of the orientation sessions. During the year, the waiting period dropped from 64 days in the first quarter, to 54 days, 39 days and, finally, 30 days in the final quarter. These results are shown in an area graph produced using Harvard Graphics in Figure 2.

Figure 1. Proportion of Assessment Appointments Scheduled That
Were Attended (The Year Before the Orientation Sessions Were
Implemented Compared to the Year After)

Before

After
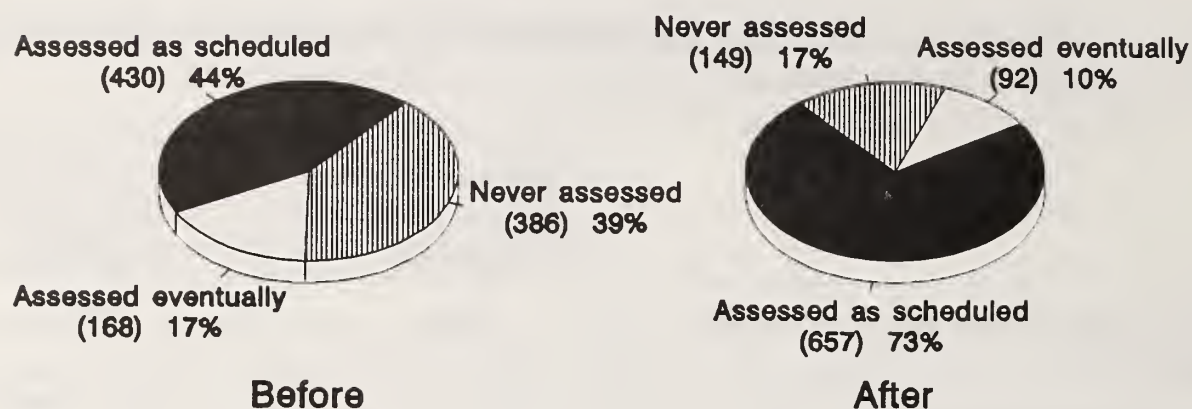
Figure 2. Average Quarterly Waiting Period for Assessment During
the Year Following Implementation of the Orientation Sessions
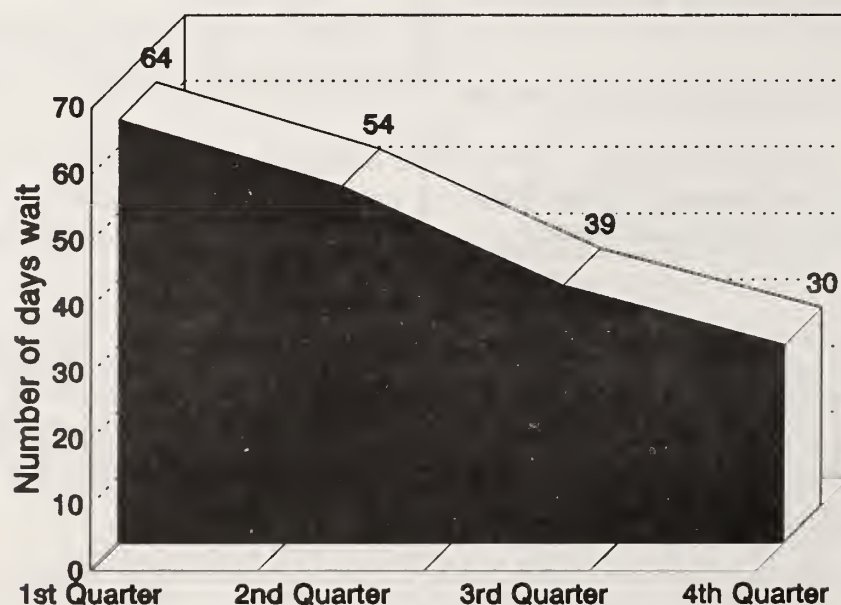
f.   How were the results used?

The results indicated that the proportion of referrals to the program who were never assessed (i.e., those who dropped out between intake and assessment) has decreased from 39% prior to the implementation of the orientation sessions to 29% following the requirement that potential clients attend orientation sessions. Thus, more people overall were entering the treatment process through attending assessment.

The results also indicated that the proportion of clients assessed as originally scheduled increased from 44% to 73% following the introduction of the orientation sessions. As well, the proportion of all assessment appointments scheduled which were not attended decreased from 65% to 39%.

Finally, the results indicated that the length of the waiting period decreased as the year progressed. During the initial two quarters of the year, the waiting period remained long because individuals who had scheduled appointments before implementation of the orientation sessions were still waiting to be seen. By the middle of the year, the length of the waiting period had decreased substantially.

These findings suggested that the implementation of the orientation sessions helped the program to meet its short-term objective of preventing no-shows/drop-outs at the assessment. Correspondingly, the length of the waiting period decreased substantially because there were fewer appointments being rescheduled. Therefore, the program manager and staff decided to continue to require attendance at the orientation sessions before scheduling an assessment appointment. They plan to continue to monitor, on an annual basis, the drop-out rates between intake and assessment, the attendance rates at assessment appointments, and the length of the waiting period.

Methodological, measurement and ethical issues:

Methodological. The waiting period depends both on the efficient use of program staff as well as the number of referrals made to the program. In this example, the total number of persons referred to the program stayed about the same. If, for some reason, the number of referrals to the program had gone up or down substantially, this would have affected the waiting period and would have made a comparison of the waiting period for the two years meaningless in terms of assessing the effects of the orientation session.
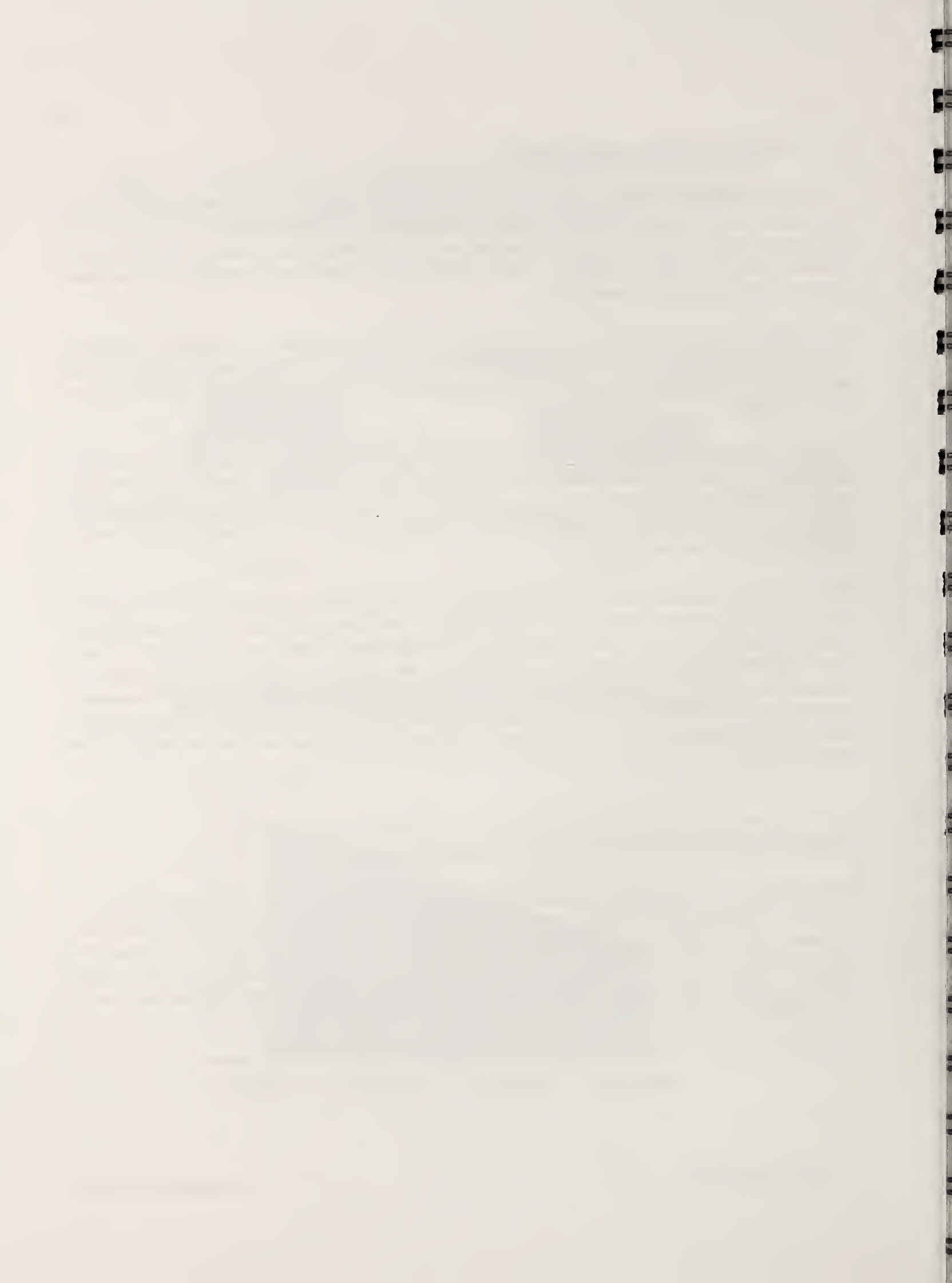
Part 4. Consumer Satisfaction - Agency Survey

Were community agencies aware of the services offered by the assessment/referral program?

To what extent have community agencies referred clients to the assessment/referral program in the past?

How satisfied were community agencies with the services offered by the assessment/referral program?

a.   Who was asking the questions and why did they want this information?

The **program manager and staff** wanted to ensure that community agencies were aware of the types of services they provided and that they had been responding satisfactorily to referrals made to the program in the past. A brief survey was developed to address these issues.

b.   What resources were needed to collect and interpret the information?

The program manager and staff spent three hours devising a questionnaire to be sent to the community agencies who might refer to the service. The secretary spent six hours preparing the questionnaires and mailing them to the community agencies. The secretary then spent six additional hours tallying information from the completed questionnaires and preparing tables and graphs.

c.   *How were the data collected?*

A mailing list of community agencies had previously been prepared as the assessment/referral service had identified relevant agencies when they had promoted a workshop a few months earlier.   The program secretary mailed the questionnaire to the managers of 38 community agencies. Completed questionnaires were returned to the program secretary who then tallied the information by hand.

Because the manager was interested in how the program had responded to particular agencies, as well as overall statistics, questionnaires were not anonymous. To ensure a high return rate, the program secretary made a reminder telephone call to programs who had not returned the questionnaire by three weeks after the initial mailing.

d.   *How were the data analyzed?*

Frequencies and average ratings were calculated and general comments were summarized.

Bar graphs presenting the results were generated using Harvard Graphics (see Appendix C).

e.   *What did they find out?*

Of 38 questionnaires that were mailed out, 35 (92.1%) were returned. All respondents were aware of the assessment and planning function of the program, but fewer were aware of the case management component and very few (9%) knew about the brief counselling aspect of the program. Two-thirds of the respondents reported that they had referred clients to the program and most indicated high satisfaction with all aspects of the program except the waiting period. Most respondents reported that they intended to refer clients to the program in the future. These results are summarized in Table 1. Awareness of program services and satisfaction ratings are shown in bar charts in Figures 1 and 2, prepared using Harvard Graphics.

Comments received from those who had not used the assessment/referral services in the past indicated that the length of the waiting period was the main reason that they did not refer clients to the assessment/referral centre. Other reasons for not referring to the assessment/referral program included: preferred to conduct in-house assessment of clients; had not had the need to refer clients; had generally referred clients to their family physicians for substance abuse issues; agencies were not aware of the additional services offered and did not feel it would be appropriate to refer someone for assessment if no further services would be offered.

Table 1.   Results of Questionnaires Sent to Community Agencies (n=35)

Questionnaire item:	
Number of agencies aware of the following services offered:	
assessment	35 (100%)
treatment planning	35 (100%)
case management	26 (74%)
brief counselling	3 (9%)
Number of agencies who have referred clients to the assessment/referral centre	24 (68.6%)
Average ratings of satisfaction with the services offered (n=24):	
confidentiality	4.8
waiting period	2.1
accessibility	4.1
ease of referral	4.9
helpfulness of staff	4.0
Number of agencies who plan to refer clients to the assessment/referral centre in the future	30 (85.7%)

Figure 1. Percent of Community Agencies Aware of Program
Services Offered by the Assessment/Referral Program

Program Services   0%   20%   40%   60%   80%   100% 120%

Assessment — 100%

Treatment Planning — 100%

Case Management — 74%

Brief Counselling — 9%
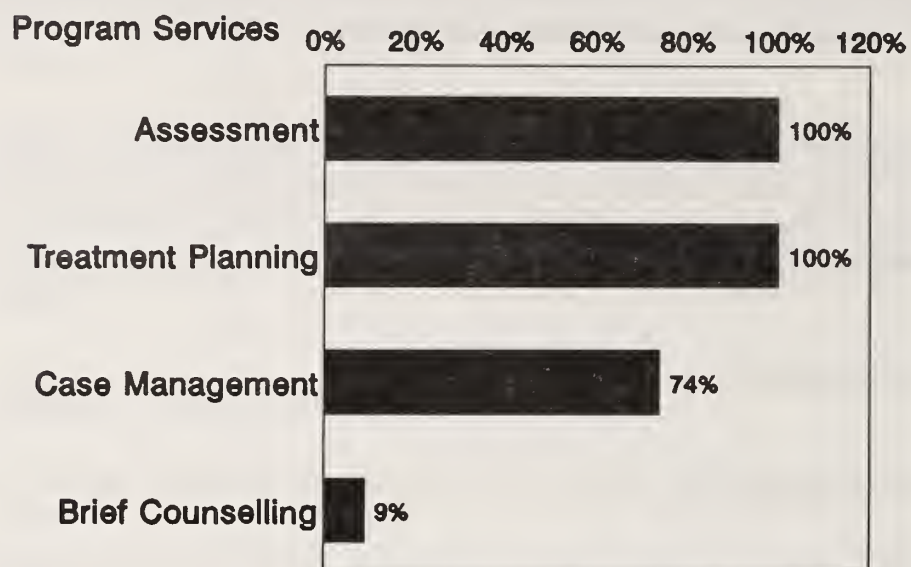
Figure 2. Average Ratings of Satisfaction with Services Offered by
the Assessment/Referral Program by Agencies who had Made
Referrals to the Program in the Past

Program Services   0   1   2   3   4   5   6

Confidentiality — 4.8

Waiting period — 2.1

Accessibility — 4.1

Ease of referral — 4.9

Helpfulness of staff — 4
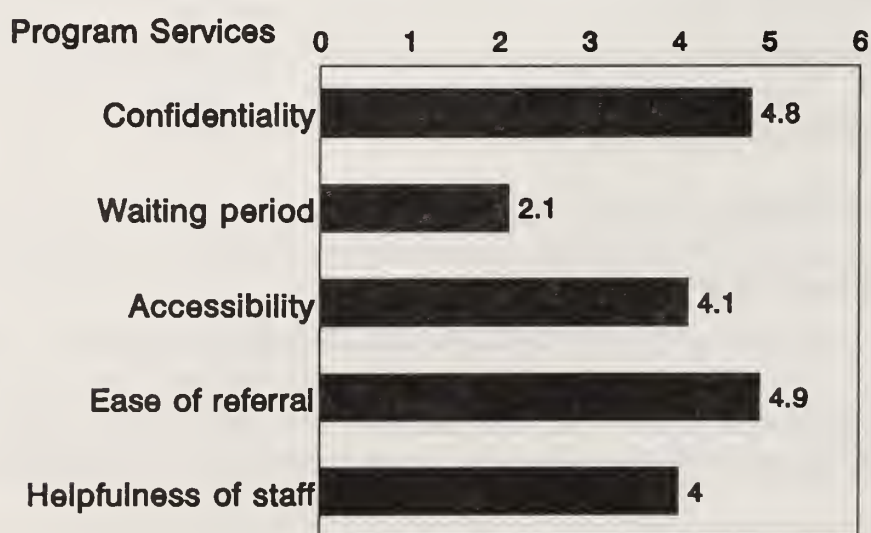
f.   How were the results used?

First, the questionnaire generally helped to make local agencies aware of the services offered by the assessment/referral program.

Second, the results indicated that community agencies who had used the services had been generally satisfied with the assessment/referral centre, except for the lengthy waiting period. Since the waiting period had been reduced through the implementation of mandatory attendance at orientation sessions, the program manager decided to write a letter to each community agency, telling them the results of the survey and informing them that recent changes in procedures had resulted in cutting the waiting period in half. The letter would also explain that particular cases could be seen even sooner, if requested.

Finally, the results of the survey were made available to staff, the board and other interested persons. The positive feedback from community agencies helped boost staff morale.

Methodological, measurement and ethical issues:

Methodological.   One of the problems in evaluating referral practices is that different agencies define "referral" in different ways. For example, agency staff may suggest that clients go to a program, but it is only an official "referral" when a referral form is sent to the referred-to agency. The assessment/referral program was interested in referrals made to them using the broadest definition of referral. Therefore, the questionnaire asked "Have you ever <u>directed</u> anyone to our agency?"

Name of agency _____

Agency Feedback Survey

> Please take a few minutes to give us your opinion of our agency. Your feedback will help us improve our services.

1. We are interested in finding out whether people know about all the services we provide. The following is a list of our services. Are you aware of any of our services?
    (Please check (√) those you are aware of.)

Assessment	☐
Treatment planning	☐
Case management	☐
Brief counselling	☐

2. Have you ever directed anyone to our agency?

Yes	☐
No	☐

    If no, are there particular reasons why you have not used our program?

    _____

    _____

    _____

3. If you have had experience in directing clients to our agency, how satisfied have you been with the following?

	Not at all satisfied				Very satisfied	Don't know
Confidentiality	1	2	3	4	5	___
Waiting period	1	2	3	4	5	___
Accessibility	1	2	3	4	5	___
Ease of referral	1	2	3	4	5	___
Helpfulness of staff	1	2	3	4	5	___

4.   **Do you feel that you would refer to us in the future?**

    ☐ Yes

Why? _____

_____

    ☐ No

Why not?_____

_____

5.   **Comments:**

_____

_____

_____

_____

Thank you for your input.

Please return this questionnaire to:

Lee Jones
Addiction Assessment Program
99 Main St.
Anytown, Ontario

L. A Women's Day Program

Program: The program is a 28-day intensive treatment program, with a 12-month weekly aftercare group for women with alcohol/drug problems. The program provides education and counselling around substance abuse issues with particular focus on the special needs of women. The 28-day program operates on a closed group model with a new group of 10 women starting every six weeks. After completing the day program, clients join one of the open ongoing aftercare groups.

The agency had a core of volunteers (many of them former clients), and they were able to recruit several volunteers to help with many aspects of the evaluation.

This example includes quality enhancement questions for four levels of evaluation:

Part 1.   **Client Characteristics**

Part 2.   **Outcome Evaluation - Program Attendance and Completion**

Part 3.   **Client Characteristics by Program Attendance and Completion**

Part 4.   **Outcome Evaluation - Follow-Up.**

Part 1. Client Characteristics

What were the characteristics of clients who completed an intake assessment for the program in terms of: level of consumption of alcohol or drugs; whether problem substance was alcohol, other drugs, or both alcohol and other drugs; level of self-esteem; age; and child care needs?

a.   Who was asking the question and why did they want this information?

The program had been operating for a number of years and the **staff and manager** had the perception that some of the characteristics of current clients differed from those whom the program initially targeted. First, although the program was initially designed for women who abused alcohol, staff perceptions indicated that drug use was high as well. There was also an impression that the average age of clients was decreasing and that child care needs were increasing. Self-esteem had always been a concern of the program, and, while initial self-esteem levels of clients did not appear to have changed from previous years, self-esteem level was a characteristic that the program staff wanted to continue to monitor.

The first stage of the quality enhancement process was to obtain an accurate and up-to-date description of the client population to ensure that services were in place to address current problems. In addition, this information would be used as baseline information for conducting outcome evaluation for the same clients.

b.   What resources were needed to collect and interpret the information?

The assessment procedures already included most of the information (including a self-esteem measure, age, and information on children and child care needs). As part of the baseline data collection, the program began using the Timeline Follow-Back (TLFB) procedure to obtain accurate information on alcohol use, as well as a drug assessment interview for drug use. These measures are described in greater detail at the end of this part of the example. A volunteer who was experienced in data analysis spent 50 hours reviewing case files and extracting, entering, and analyzing the information.

In order to analyze the data, a computer and statistical software were required.

c.　　How were the data collected?

The data were collected as part of the clinical assessment. To address the quality enhancement question, the following measures were extracted by the volunteer from the assessment data:

(a)　　Level of consumption of alcohol or drugs. Variables used to measure this included: maximum number of drinks per day, average number of standard drinks per day, and number of days using drugs other than alcohol (variables were calculated from information obtained using the Timeline Follow-Back procedure and the drug assessment interview covering the six months prior to entering treatment).

(b)　　Problem substance alcohol, drugs, or both. All alcohol and drug use was recorded for the six months prior to entering the program. Problem alcohol use was defined as drinking five or more drinks on one occasion at least once a week or drinking on average more than 14 drinks per week, or being reported by the client as a problem. Problem drug use was defined as using the drug once a week or more frequently during the six month period, or any use defined as a problem by the client.

(c)　　Self-esteem was measured using the Rosenberg Self-Esteem Scale (RSES)[1].

(d)　　Age was measured as age in years at time of entry into the program.

(e)　　Child care needs were assessed using three variables: whether the client had any dependent children (16 years of age and under) living with her, whether any of these children were five years of age or younger, and whether the client reported that she would have difficulty arranging child care in order to attend the program.

The first step was to prepare the data for computer entry. A summary sheet was set up for extracting information from the assessment forms in each case file. Information was coded for each variable as shown in Figure 1.

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[1]The Rosenberg Self-Esteem Scale (RSES) consists of 10 statements that describe overall feelings of self-worth and self-acceptance. Respondents indicate their agreement with each statement using a 4-point scale ranging from "Strongly agree" to "Strongly disagree" (see p.217). The RSES data that was produced for this example was inadvertently based on a 5-point rating scale. The 4-point rating scale is recommended for use by programs in their quality enhancement endeavours.

Figure 1. Data Entry Summary Sheet

Client ID#	Maximum # drinks per day	Average # drinks per day	# drug-using days in past 6 months	Problem substance alcohol and/or drugs 1-alcohol only 2-drugs only 3-alcohol and drugs	Average self-esteem score	Age	Whether client had children 16 and under: 1-yes 2-no	Whether client had children 5 and under: 1-yes 2-no	Whether client had difficulty arranging child care: 1-yes 2-no

d. How were the data analyzed?

The information was entered into the computer using a simple statistical software package: EPI INFO. Descriptive statistics (i.e., counts and percentages) were calculated on categorical variables, such as whether problem substance was alcohol and/or drugs. Average scores and ranges of scores were calculated for quantifiable variables (e.g., average age of clients).

Pie graphs illustrating some of the results were generated using Lotus 1-2-3 (see Appendix B).

e. What did they find out?

During a 24 month period, 290 women were assessed. As shown in Table 1, the majority of clients (70%) had problems with both alcohol and other drugs (see also pie graph shown in Figure 2). Clients also tended to have low self-esteem. More than a third of clients had at least one child aged five or younger and about a third of clients reported that arranging child care would be a problem (see Figure 3).

Table 1. Characteristics of the 290 Clients Assessed

Measure	Results
Substance use:	
average maximum drinks per day	11.0 (range 0 to 24)
average number of drinks per day	5.3 (range 0 to 12)
average number of drug-using days	82.7 (range 0 to 182)
Problem substance:	
alcohol only	50 (17%)
drugs only	39 (13%)
alcohol and drugs	201 (69%)
Self-esteem:	
average rating (where 1 is lowest self-esteem and 5 is highest self-esteem)	2.4 (range 1.2 to 4.5)
Average age:	32.7 (range 18 to 65)
Child care needs:	
number of clients with no dependent children	93 (32%)
number of clients with children aged 6-16, but no children under 6	84 (29%)
number of clients who had at least one child aged 5 or younger	113 (39%)
number of clients reporting that arranging child care would be a problem	92 (32%)

NOTE: Average number of drinks and number of drug-using days are based on analyses of all clients assessed (including those who did not report problems with alcohol or did not have problems with drugs).

Among those who reported problem use of alcohol, the average number of drinks per day was 5.8 (range 1 to 12) and the average maximum number of drinks per day was 12.0 (range 3 to 24). Among those who were identified as having problems related to drug use, the average number of days when drugs were taken over the past six months (182 days) was 96.8 (range 12 to 182). The most frequently used drugs were marijuana/hash, cocaine, and tranquilizers (benzodiazepines).

Figure 2. Proportion of Clients Abusing Alcohol Only, Drugs Only, or Both

Alcohol only (17.2%)

Alcohol and Drug (69.3%)

Drugs only (13.4%)
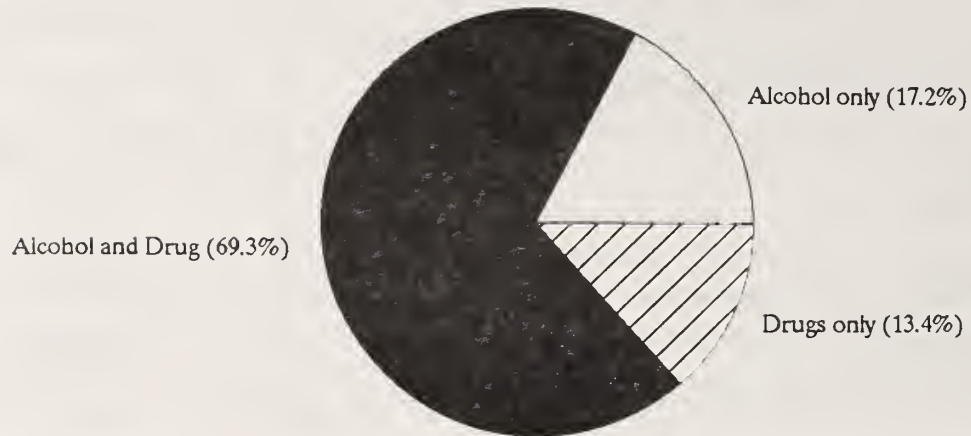
Figure 3. Proportion of Clients With and Without Dependent Children

Children aged 6–16 only (29.0%)

No depend. child. (32.1%)

At least one child <6 years (39.0%)
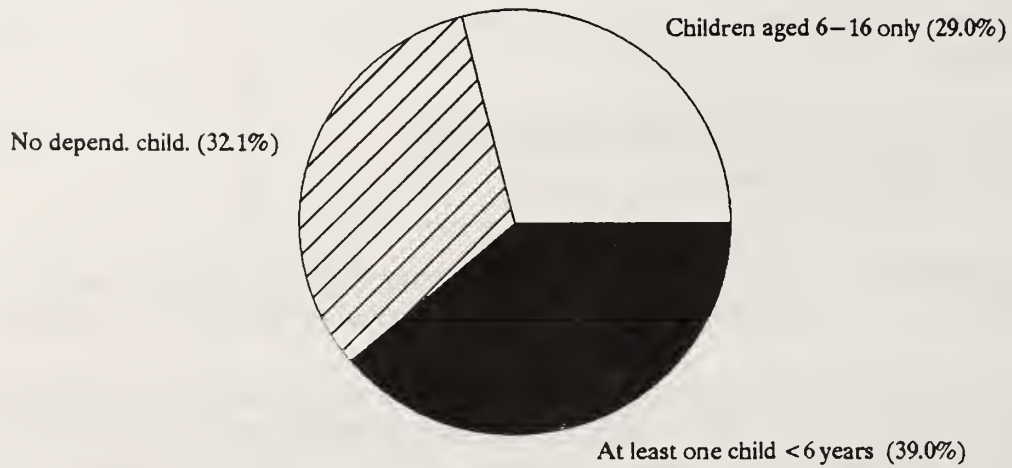
f.   How were the results used?

The most important finding was that most clients assessed for the program reported problem use of both alcohol and at least one other psychoactive drug. This result suggested that, although the program was initially seeing mostly alcohol abusers, current clients were more likely to be polydrug users. The use of more than one substance raised issues of cross-addiction and other complications relevant to treatment. Also, the social context of alcohol use is likely to be different than the social context of use of drugs, such as prescribed benzodiazepines or street drugs such as cocaine. Thus the program needed to address both alcohol and drug abuse issues, as well as ongoing abuse of several substances. A decision was made by the manager and staff that the priority for staff training would be education regarding use and abuse of both illicit and prescription drugs as well as issues related to polydrug use.

Since the results indicated that average alcohol consumption levels varied considerably among the clients, the program manager and one staff member decided to set aside time to review the content of the program to ensure that the needs of both heavier and lighter alcohol abusers could be addressed.

As is common among women who present for substance abuse problems, self-esteem was generally low. The program already focused on improving self-esteem in order to help clients in their recovery. These results confirmed, for the program, this focus on self-esteem.

The average age of clients attending the program had decreased over the years of operation. Since younger women are more likely to have young children and more likely to use illicit drugs, this decrease in age of the clientele was consistent with the increase in drug abuse and the greater amount of time spent by the program on helping clients to resolve child care problems.

While child care was not an issue with most clients, it did present problems for almost a third of those assessed. Therefore, the program staff felt that they needed to continue to monitor child care needs in order to ensure that child care was not a barrier to treatment. One staff member was assigned the task of investigating day-care options in the community for program participants. In addition, the possibility of in-house day-care would be discussed by the board and the alumnae group.

Methodological, measurement, and ethical issues:

Methodological.   The present approach to monitoring child care needs may actually underestimate this need in the potential client population. It may be that many women who would be suitable for the program are not referred in the first place because problems arranging child care would preclude entering the program. Thus, it may be that most potential clients who have children five or younger are already being screened from the program.

Measurement. Some of the results were based on using standardized measures, but the categorization of problem substance (alcohol, drugs, or both) was based on the judgement of the assessment worker (using the designated criteria). These criteria provide a handy but rough description of the population. For example, criteria for rating whether a client abused drugs did not distinguish between different types of drugs – thus, weekly use of marijuana was classified as problem use, as was weekly use of heroin or cocaine. Since fairly high drug use was identified among the client population, the program might adopt a more fine-grained method of categorizing drug abuse in future evaluations.

Measures Used:

Rosenberg Self-Esteem Scale

This scale is available in the public domain and is reproduced on the following page.

Timeline Follow-Back Method

The Timeline Follow-Back method is a procedure for obtaining information regarding daily alcohol consumption, using a calendar and other memory aids. Although the method takes more time (10-30 minutes) to administer than some other assessments of consumption, it is considered the most valid measure of alcohol consumption currently available. A description of how to use this method is available in:

A.   "A Directory of Client Outcome Measures for Addictions Treatment Programs" (a resource book available from the Addiction Research Foundation, 1993)

B.   "Timeline Follow-Back. A Technique for Assessing Self-Reported Alcohol Consumption" by L.C. Sobell and M.B. Sobell. In R. Z. Litten & J. Allen (Eds.), Measuring Alcohol Consumption: Psychological and biological methods, New Jersey: Humana Press, 1992.

Drug Use Interview

For a description of approaches to conducting a drug use interview see:

A.   A Directory of Client Outcome Measures for Addictions Treatment Programs" (a resource book available from the Addiction Research Foundation, 1993)

B.   "Dimensions of Multiple Drug Use and Typology of Drug Users" by D.A. Wilkinson, G.M. Leigh, J. Cordingley, G.W. Martin, & H. Lei, British Journal of Addiction, Vol.82, pp.259-273, 1987.

Rosenberg Self-Esteem Scale

INSTRUCTIONS: Please circle the appropriate number for each statement depending on whether you strongly agree, agree, disagree, or strongly disagree with it.

Strongly agree	Agree	Disagree	Strongly disagree
1	2	3	4

1. On the whole, I am satisfied with myself.   1 2 3 4

2. At times I think I am no good at all.   1 2 3 4

3. I feel that I have a number of good qualities.   1 2 3 4

4. I am able to do things as well as most other people.   1 2 3 4

5. I feel I do not have much to be proud of.   1 2 3 4

6. I certainly feel useless at times.   1 2 3 4

7. I feel that I'm a person of worth, at least on an
    equal plane with others.   1 2 3 4

8. I wish I could have more respect for myself.   1 2 3 4

9. All in all, I am inclined to feel that I am a failure.   1 2 3 4

10. I take a positive attitude toward myself.   1 2 3 4

Scoring: Sum or average the ratings assigned to all the items after reverse scoring the positively worded items. Total scores range from 10 to 40. Average ratings range from 1 to 4. Higher scores indicate higher self-esteem.

Level of difficulty: easy
Level of resources needed: moderate

Part 2. Outcome Evaluation - Program Attendance and Completion

What proportion of clients were referred to but did not attend the program?

What proportion of clients who entered the program attended regularly?

What proportion of clients completed a discharge interview?

a.   Who was asking the questions and why did they want this information?

The **program manager and staff** wanted to know more about attendance at and dropout from the program. While some dropout is inevitable, the program manager and staff were concerned about clients who were assessed but did not show for treatment. For those who came to treatment, the staff felt that the effectiveness of the program was greatly reduced if clients did not attend regularly or dropped out without completing the program. The first step in addressing this issue was to assess the rate of attendance and program completion of the clients who had attended the program. Attendance and program completion were calculated for the clients who were assessed during Part 1 of the evaluation.

b.   What resources were needed to collect and interpret the information?

All information was recorded in the client's files. A volunteer spent 40 hours extracting and analyzing the information.

c.   How were the data collected?

A file was opened for each client assessed. Whether the person entered the program was indicated in the file, as well as daily attendance at the day treatment program, and whether the client completed a discharge interview. Clients who attended at least 20 days of the 28-day

program and who participated in the discharge interview were classified as "successful program completers".

d. *How were the data analyzed?*

The volunteer added the data to the existing database in EPI INFO and calculated the following:

- proportion of clients who entered the program
- proportion of clients entering the program who attended 19 days or less
- proportion of clients entering the program who attended 20 days or more
- proportion of clients entering the program who completed a discharge interview
- proportion of "successful completers" (i.e., attended 20 days or more and attended discharge interview).

Lotus 1-2-3 (see Appendix B) was used to prepare a graphical presentation of the results.

e. *What did they find out?*

Of the 290 people who were assessed for the program, 70 (24%) did not begin the program; that is, they dropped out between the assessment and program entry. Of the remaining 220 who did enter the program, 169 (77% of those who entered treatment) were classified as "successful completers". Figure 1 provides a pie chart illustrating the distribution of persons assessed into three groups: did not attend at all (non-attenders), attended but did not successfully complete the program (non-completers), and those who successfully completed the program. Average attendance rates of all who entered the program was 22 days. Among program completers, the average attendance rate was 26 days.

Figure 1. Proportion of Clients Assessed Who Entered and Completed Treatment

Non–completers (17.6%)

Non–attenders (24.1%)

Successful completers (58.3%)
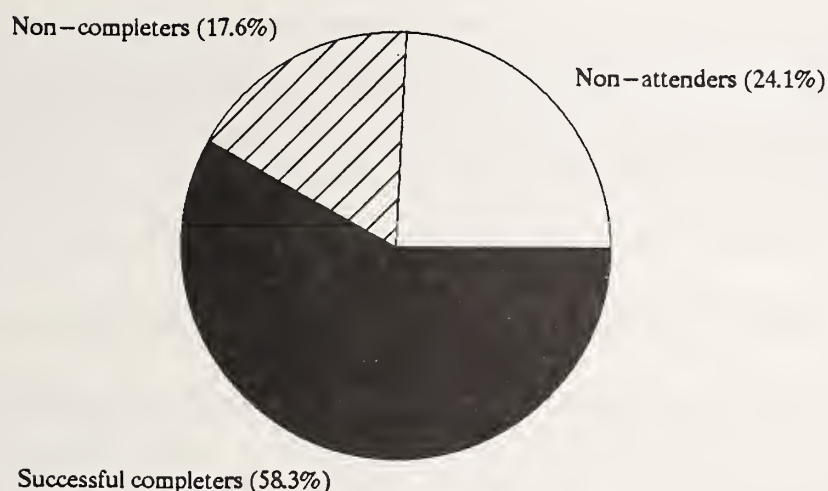
f.   *How were the results used?*

The results indicated that the largest proportion of clients who dropped out did so before entering the program. This finding suggested to the program manager that one area that needed to be examined was why people who were assessed for the program chose not to come. This dropout rate reduced the program's efficiency and hence failed to serve clients who potentially could benefit from attending it. A closer examination of the characteristics of these clients was planned (and is reported in Part 3 of this example).

Once clients entered the program, retention rates and attendance were fairly high. However, the program manager also felt that more needed to be known about non-completers, particularly those who dropped out of the program during the first few weeks. In addition, the program is considering whether more active outreach and more frequent referrals are needed for those who do not respond well to the program.

> Level of difficulty: moderate
> Level of resources needed: moderate

Part 3. Client Characteristics by Program Attendance and Completion

> **_Did clients who dropped out before or during treatment differ from clients who completed the program on initial alcohol and drug use, substances abused, initial level of self-esteem, and child care responsibilities?_**

a.   Who was asking the question and why did they want this information?

The **program manager and staff** wanted to better understand the needs of clients who dropped out before or during treatment. Using the data that had already been collected on a number of variables addressed at the initial assessment, it was possible to examine the differences between those who completed the program and those who did not. This information might be used to help reduce dropout rates.

b.   What resources were needed to collect and interpret the information?

An experienced volunteer spent three hours analyzing data that had already been entered into the computer database.

c.   How were the data collected?

All information had been entered into the computer during Parts 1 and 2 of the evaluation.

d.   How were the data analyzed?

The volunteer spent three hours generating comparison scores on the assessment variables computed in Part 1 of the example for those who dropped out between assessment and the beginning of the day treatment program ("non-attenders"), those who attended the program but were not classified as successful completers ("non-completers"), and those who attended the program 20 or more days and attended the discharge interview ("successful completers"). The volunteer also calculated average attendance scores for all clients who entered treatment,

comparing those who had children to those who did not, and comparing those who had at least one child five years of age or younger to those who had no children or whose children were six or older. Average scores among the three groups were compared for statistical significance using Analysis of Variance. Statistical significance of relationships among categorical variables was assessed using Chi-Squared statistic.

e.   *What did they find out?*

As identified in Part 2 of the evaluation, of the 290 people who were assessed and referred to the program, 70 dropped out between assessment and the beginning of treatment, 169 were classified as successful completers and 51 attended the program but were not classified as successful completers.

As shown in Table 1, the results indicated that successful completers, non-completers, and non-attenders did not differ significantly in terms of initial levels of alcohol use. Successful completers, however, tended to use drugs less often than non-attenders and non-completers. Successful completers also tended to be more likely than non-attenders and non-completers to have problems with alcohol only, while non-attenders and non-completers were more likely to abuse both alcohol and drugs.

In terms of self-esteem, successful completers, non-completers and non-attenders were significantly different on initial self-esteem, with successful completers highest in self-esteem.

The three groups did not differ significantly in age, but there was a significant difference in the percent of clients in each group who had dependent children. Clients who had no dependent children were more likely to complete the program while clients who had at least one child aged five or younger were more likely to drop out before treatment or to enter the program but not complete it. Similarly, those who had children attended the program less often than those with no children, and clients who had at least one child aged five or younger showed the poorest attendance.

Table 1. Initial Assessment Results for Successful Completers, Those Who Attended the Program But Were Not Classified as Successful Completers (Non-completers) and Those Who Dropped Out Between Assessment and the Beginning of the Program (Non-attenders).

	All assessed clients n=290	Successful completers n=169	Non-completers n=51	Non-attenders n=70
Substance use:				
average maximum of drinks per day (F=2.7, df=289, n.s.)	11.0	10.7	10.0	12.2
average number of drinks per day (F=2.5, df=289, n.s.)	5.3	5.0	5.2	5.9
average number of drug-using days (out of 182) (f=3.4, df=289, p<.05)	82.7	76.4	90.0	92.7
Problem substance: (x^2=18.2, df=4, p<.01)				
alcohol only	50 (17%)	40 (24%)	2 (4%)	8 (11%)
drugs only	39 (13%)	27 (16%)	7 (14%)	5 (7%)
alcohol and other drugs	201 (69%)	102 (60%)	42 (82%)	57 (81%)
Self-esteem:				
average self-esteem score (where 1 is lowest self-esteem and 5 is highest) (F=13.1, df=289, p<.0001)	2.4	2.6	2.1	2.2
Average age (F=1.6, df=289, n.s.)	32.7	33.4	30.8	32.3
Child care: (x^2=75.8, df=4, p<.001)				
number of clients with no dependent children	93 (32%)	80 (47%)	5 (10%)	8 (11%)
number of clients with children aged 6-16, but none under 6	84 (29%)	53 (31%)	16 (31%)	15 (21%)
number of clients with at least one child aged 5 or younger	113 (39%)	36 (21%)	30 (59%)	47 (67%)

f.   How were the results used?

The results indicated that having problems with more than one substance, having low self-esteem, and having dependent children (especially children aged five and under) were related to dropping out and poor attendance. These results suggested that more needed to be done at the assessment stage and during the program to facilitate treatment for those with low self-esteem and polydrug problems. The program manager and staff are experimenting with various methods of support and outreach to increase the retention rates of these clients. In addition, the evident impact of dependent children on treatment entry and attendance suggests that the program needs to institute a systematic method of helping clients deal with child care emergencies. The alumnae group is setting up a core of volunteer babysitters who will be available to help out in emergencies. In addition, various options for facilitating day care are being explored by a subcommittee of board members and alumnae. As new clients are assessed, the availability of child care support will be discussed, including the availability of volunteers for emergency babysitting.

Part 4. Outcome Evaluation - Follow-Up Status at 12 Months

Did the clients who completed the program decrease their use of alcohol and drugs?

Did the clients who completed the program improve their self-esteem?

Did successful program completers show more improvements than non-completers and non-attenders?

How many clients attended aftercare?

What was the average length of time that clients attended aftercare?

a.   *Who was asking the questions and why did they want this information?*

As part of the process of quality enhancement, the program began to collect systematic follow-up data at 12 months following treatment. Clients were telephoned by volunteers every three months for the first 12 months following their discharge from treatment. At the 12-month follow-up, clients completed a more extensive reassessment including use of the Timeline Follow-Back procedure, a drug-use interview and the Rosenberg Self-Esteem Scale. The **program manager and board** hoped to use follow-up information as well as rates of attendance at aftercare as part of an evaluation to assess the extent to which clients were being helped by the program. This information might also be useful in identifying areas where the program needed to be strengthened.

b.   *What resources were needed to collect and interpret the information?*

Volunteers spent 400 hours over two years contacting clients and conducting the 12-month follow-up interviews. As well, private fundraising allowed the program to hire a half-time researcher who co-ordinated the follow-up interviews and did the data entry and analysis. A seven-member program advisory committee oversaw the project.

c.   *How were the data collected?*

Volunteers attempted to contact all persons who were assessed for the program even if they did not enter or complete treatment. For clients who did not attend treatment up to discharge, follow-up contacts occurred at three-month intervals following the date they would have been discharged from the program had they completed treatment. A modified version of the initial assessment form, the Rosenberg Self-Esteem Scale, a drug-use interview, and the Timeline Follow-Back procedure were administered by the volunteer interviewer when the 12-month follow-up contact was made.

The aftercare group kept attendance records and these records were reviewed for the 290 clients involved in the evaluation. Two measures were extracted: the number of aftercare sessions attended and the number of days between discharge from the program and the last aftercare meeting attended.

d.   *How were the data analyzed?*

The data were entered into the computer using EPI INFO. Assessment information and information regarding program entry, attendance and completion already existed in the data file. Follow-up data were analyzed comparing results of those who completed the program and those who did not. Changes in scores between initial assessment and 12-month follow-up were calculated. Analysis of variance comparisons[1] were used to assess the statistical significance of the differences on these scores between successful completers and non-completers. Proportion of clients attending aftercare, average number of sessions attended and average length of time in aftercare were also calculated.

Line graphs comparing initial measures with follow-up measures were generated using Lotus 1-2-3 (see Appendix B).

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[1]Since there were only two groups being compared, using analysis of variance is equivalent to using t-test, except that the F-statistic is reported rather than the t-statistic. The F-statistic is the more general form that could be used with three or more groups, if desired.

e. *What did they find out?*

Follow-up was attempted for everyone who had completed the initial assessment, including those who dropped out before and during treatment. Twelve-month follow-up was completed for 204 clients (70% of all who were assessed). The rate of follow-up success was higher for the 220 who entered the program (168 [76%] were located at follow-up), and higher still for the 175 clients who completed the program (139 [82%] located at follow-up).

Table 1 shows the 12-month status on drinks per day, number of drug-using days, and self-esteem of clients who did not complete the program or who dropped out before entering the program compared to successful program completers. Table 2 shows the average change scores on these variables for those who did not complete the program compared to those who were successful completers. The changes in status for non-completers versus completers are shown graphically in Figures 1a to 1d.

The data indicated that successful completers were doing significantly better at 12-month follow-up than those who dropped out, both in terms of absolute outcome (Table 1) and in terms of extent of change made (Table 2 and Figures 1a to 1d).

Table 1. **Substance Use and Self-Esteem Measures at Follow-Up (Program Completers Compared to Non-completers/Non-attenders)**

	Non-completers and non-attenders n=65	Successful completers n=139
average maximum number of drinks in one day (F=49.0, df=203, p<.0001)	9.6	4.3
average number of drinks per day (F=69.2, df=203, p<.0001)	4.3	1.4
average number of drug-using days (out of 182) (F=41.6, df=203, p<.0001)	51.5	18.2
average self-esteem score (where 1 is lowest self-esteem and 5 is highest) (F=156.7, df=203, p<.0001)	2.5	3.8

Table 2. Changes in Average Scores Between Assessment and Follow-Up (Program Completers Compared to Non-completers/Non-attenders)

	Non-completers and non-attenders n=65	Successful completers n=139
change in average maximum number of drinks in one day (F=24.6, df=203, p=.0001)	-1.9	-6.6
change in average number of drinks per day (F=28.2, df=203, p<.0001)	-1.3	-3.6
change in average number of drug-using days (out of 182) (F=4.2, df=203, p<.05)	-42.9	-58.9
change in average self-esteem score (where 1 is lowest self-esteem and 5 is highest) (F=51.3, df=203, p<.0001)	+0.4	+1.2

With regards to attendance at aftercare, most of the successful completers attended at least one aftercare group, with an average of four sessions attended (see Table 3). The average duration of clients' attendance at aftercare was slightly longer than one month.

Table 3. Aftercare Attendance of Program Completers (n=175)

Measure	Results
number of clients who attended at least one aftercare group	165 (94.3%)
average number of aftercare sessions attended (range 0-40)	4
average length of time people continued to attend aftercare following discharge (range 0-300)	35 days

Figure 1a. Average Max. Number of Drinks/Day at Initial Assessment and 12–Month Follow–up (Program Completers Compared to Non–completers/Non–attenders)

Figure 1b. Average Number of Drinks/Day at Initial Assessment and 12–Month Follow–up (Program Completers Compared to Non–completers/Non–attenders)

Figure 1c. Average Number of Drug–Using Days at Initial Assessment and 12–Month Follow–up (Program Completers Compared to Non–completers/Non–attenders)
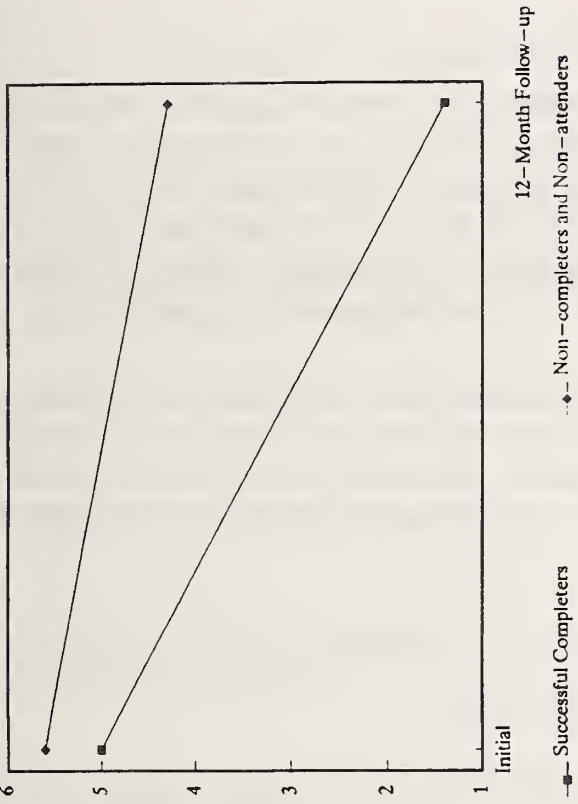
Figure 1d. Average Self Esteem Score at Initial Assessment and 12–Month Follow–up (Program Completers Compared to Non–completers/Non–attenders)

Women's Day Program
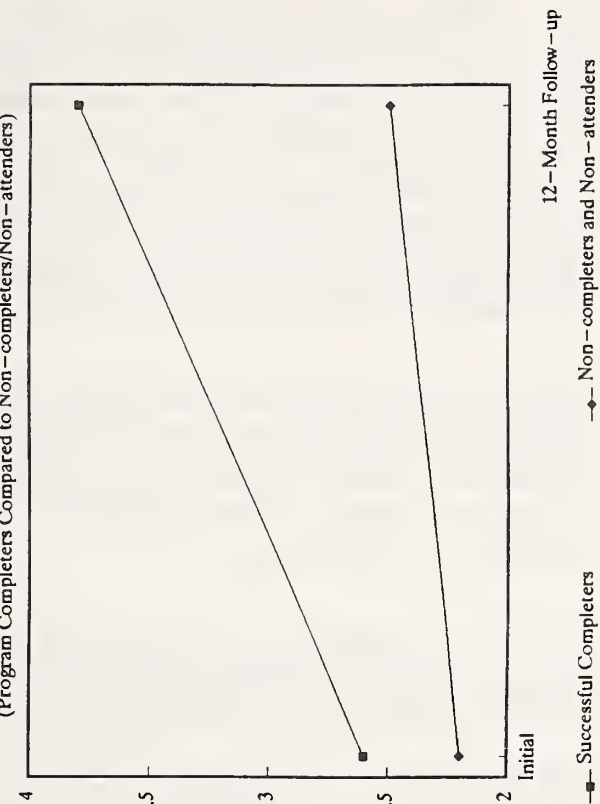
f.   How were the results used?

The results indicated that those who successfully completed the program improved substantially, and that they improved significantly more than those who did not complete the program. Although this did not provide absolute proof of the program's effectiveness (since no control group was used in the evaluation), it did provide evidence that, for the most part, the program was meeting its goals in terms of client change. Therefore, the program manager decided that any changes in programming at this time would focus on keeping people in treatment.

Dropout from aftercare was higher than expected. Therefore, the program staff are now considering holding an aftercare "refresher" day once every four to six months as a means by which they might be able to provide aftercare services to those who do not attend on a regular or long-term basis. Clients could be invited to the "refresher" day when they are telephoned by volunteers for follow-up.

Methodological, measurement, and ethical issues.

Methodological. While the results indicated that program completers did better than non-completers and non-attenders, these findings support the interpretation that the program is effective but do not provide conclusive evidence. Program completers may simply have been more motivated to address their problems and thus showed better results than drop-outs. To formally assess the program's effectiveness would have required the random assignment of clients to a control or comparison group at assessment. The program was not able to undertake such an evaluation. These results did support the assumption that the program was reasonably successful with regards to its objectives for clients.

Measurement. To keep the example as simple as possible, change scores were analyzed (in a simple two-group one-way ANOVA). A more usual approach would be to use a two-group repeated measures ANOVA, thereby allowing for analysis of interactions.

Ethical. Because the design of the study required that clients be contacted 12 months after completing the program, clients were asked to consent to the follow-up at the time that they were initially assessed. Volunteers were trained in conducting follow-up and were made aware that the names of clients and other information to which they had access was to be kept strictly confidential.

Part VII. Annotated Bibliography of Resources on Evaluation

Agnew, N. McK. & Pyke, S.W. (1991). *The Science Game.* Englewood Cliffs, N.J.: Prentice-Hall Inc. (285 pages).

This book is a fairly easy-to-read introduction to research in the behavioural sciences for people with some social science background. Its 17 chapters include information about research design, field study research, survey research, descriptive statistics, basic inferential statistics, sampling, measurement, report writing and ethics.

Austin, M.J., Cox, G., Gottieb, N., Hawkins, J.D., Kruzich, J.M. & Rauch, R. (1982). *Evaluating your agency's programs.* London: Sage Publications. (192 pages).

This easy-to-read book discusses program evaluation principles and practices in seven chapters: 1) Why should agencies evaluate their own programs? 2) Getting ready; 3) Getting started; 4) Measuring program effort; 5) Evaluating program effectiveness; 6) Assessing program efficiency; 7) Program evaluation and program planning. Although the examples are not addictions specific, this is a very useful guide to self-evaluation.

Berk, R.A. & Rossi, P.H. (1990). *Thinking about program evaluation.* Newbury Park, California: Sage Publications. (127 pages).

This book is fairly theoretical. The authors define a number of evaluation concepts and approaches to evaluation using the following headings: 1) What this book is about; 2) Key concepts in evaluation research; 3) Designing new programs: A chronological perspective; 4) Examining ongoing programs: A chronological perspective.

Briar, S. & Blythe, B.J. (1985). Agency support for evaluating the outcomes of social work services. *Administration in Social Work, 9(2), 25-36.*

This brief article discusses the role of program evaluation in service agencies. It addresses the use of assessment tools to gather information about client characteristics. It also includes discussion of the role of the management information system in program evaluation.

California Society of Addiction Medicine. (1991). *Recommendations for design of treatment efficacy research with emphasis on outcome measures.* **California Society of Addiction Medicine. (4 pages).**

This brief publication identifies some of the issues to be examined in outcome evaluations and outlines some of the specific variables to be measured. It provides a good checklist of the elements of an evaluation study and some of the possible variables to consider.

Canadian Evaluation Society. (1989). *The value of evaluation: A statement for managers.* **Ottawa: Canadian Evaluation Society. (8 pages).**

"This brief statement was prepared by the Canadian Evaluation Society to tell managers and other decision makers: 1) what to expect from evaluation; 2) how evaluation provides credible, objective information about the results of existing activities and the potential effectiveness of proposed new initiatives; 3) how evaluation adds value to activities through better understanding of results and the reasons for them; and 4) how evaluation supports and challenges management decision making by providing better information about the links between mandate, objectives, activities, and results." (p.1) Three case examples are used to illustrate elements of the statement. The statement is printed in English and French and is available from: The Canadian Evaluation Society, 309 St. James Street, Ottawa, Ontario K1R 5M8.

Casswell, S. & Duignan, P. (1989). *Evaluating health promotion: A guide for health promoters and health managers.* **Auckland: Department of Community Health, School of Medicine, University of Auckland. (28 pages).**

This brief and easy-to-read guide discusses the rationale of evaluations. An actual dialogue on the issue of health promotion evaluation is quoted. A number of evaluation examples are described, and ways in which the results can be used are outlined. The guide provides a good introduction to evaluation of health promotion programs.

Ciarlo, J.A., Brown, T.R., Edwards, D.W., Kiresuk, T.J. & Newman, F.L. (1986). *Assessing mental health treatment outcome measurement techniques.* **Washington: U.S. Department of Health and Human Services. (90 pages).**

This document discusses the use of client outcome measures in outcome evaluations. It is fairly detailed and technical. While it is long, it is not difficult to read and it is informative for the individual wishing to explore different kinds of client outcome measures.

Commission on Accreditation of Rehabilitation Facilities. (1988). *Program evaluation in alcoholism and drug abuse treatment programs.* Tucson: Commission on Accreditation of Rehabilitation Facilities. (50 pages).

This document is organized into nine sections: 1) Acknowledgements; 2) Introduction to evaluation; 3) Program evaluation components; 5) Performance standards and weighting; 6) Client descriptors and supplemental measures; 7) Data collection; 8) Utilization; and 9) Appendix. It guides the reader logically through the rationale behind evaluations and then the planning, implementation, and utilization of evaluations for alcohol and drug abuse treatment programs. Through the use of step-by-step examples, it addresses many of the common concerns within such settings.

Ellis, D., Reid, G. & Barnsley, J. (1990). *Keeping on track: An evaluation guide for community groups.* Vancouver: Press Gang. (79 pages).

This guide is organized into six chapters: 1) Evaluation can be useful; 2) How to prepare for an evaluation; 3) Negotiating for an evaluation method; 4) How to develop an evaluation design; 5) How to collect, analyze, and use the evaluation data; and 6) Guidelines for self-evaluation. The guide is based on a method of evaluation called *participant-focused evaluation.* The guide is well organized and easy to read. It is very useful for the novice-to-moderate evaluator who wishes to plan and carry out their own evaluation using this type of approach.

Fromberg, R. (Ed.). (1987). *Monitoring and evaluation: Alcoholism and other drug dependence services.* Chicago: Joint Commission on Accreditation of Healthcare Organizations. (58 pages).

This guide to monitoring and evaluating alcohol and drug dependence programs includes four chapters: 1) Interpretation of the standards for alcoholism and other drug dependence services; 2) Monitoring and evaluation of the quality and appropriateness of care; 3) Monitoring and evaluation in alcoholism and other drugs dependence services; and 4) Resources. The focus is on the concepts of "quality of care" and "quality assurance." It is logically presented in simple language. It is available from: Joint Commission on Accreditation of Healthcare Organizations, 875 North Michigan Avenue, Chicago, Illinois 60611.

Graham, K., et al, (1993). *A directory of client outcome measures for addictions treatment programs.* **Toronto: Addiction Research Foundation. (304 pages).**

The directory reviews standardized measures for client outcome in three main areas: 1) Substance abuse – including alcohol and drug consumptions, consequences of use, drinking and drug-using situations, self-efficacy and coping; 2) Other life areas – including psychological well-being, physical health and cognitive functioning, social and leisure activities, legal, financial and work status; and 3) Treatment response – including client satisfaction and feedback.

Hawkins, J.D. & Nederhood, B. (1987). *Handbook for evaluating drug and alcohol prevention programs; Staff/team evaluation of prevention programs (STEPP).* **Washington: U.S. Department of Health and Human Services. (113 pages).**

This handbook is a step-by-step guide to planning, implementing, and using the results of an evaluation. The process of evaluation is defined in six steps: 1) Choosing an evaluation question; 2) Designing an evaluation; 3) Designing measurement instruments; 4) Building a data collection plan; 5) Analyzing the data; and 6) Reporting the findings. A checklist is provided at the beginning of the handbook to guide the reader through the manual. This book is detailed, comprehensive and easy to read.

Hersey, J.C. (1979). "Dirty" research in "real" places: A practitioner's guide to program evaluation in the human services. *Evaluation and Program Planning, 21, 153-157.*

This article focuses on quality improvement of programs using evaluation. It uses simple language and presents a logical process of developing, performing, and using the results of an evaluation.

Hudson, J., Mayne, J. & Thomlison, R. (Eds.). (1992). *Action-oriented evaluation in organizations: Canadian practices.* **Toronto, Ontario: Wall & Emerson. (340 pages).**

This edited book provides a useful description of the variety of approaches that can be used in evaluation.

Koosis, D.J. (1977). *Statistics (2nd Edition): A self-teaching guide.* **NY: John Wiley & Sons.**

This is a 'how to' book for the general student who wants to learn basic statistical concepts and procedures. It assumes only a limited knowledge of algebra and shows how analyses can be done using a hand calculator.

Leukefeld, C.G. & Bukoski, W.J. (1991). Drug abuse prevention evaluation methodology: A bright future. *Journal of Drug Education, 21(3), 191-201.*

This article provides a brief synopsis of drug abuse prevention evaluation. Emphasis is on methodological issues of evaluation, such as instrumentation, control/comparison groups, intervention specificity, clarifying outcome variables, replication issues, and measuring immediate and long-term effects. Some specific evaluation questions are identified as well.

Linney, J.A. & Wandersman, A. (1991). *Prevention plus III: Assessing alcohol and other drug prevention programs at the school and community level. A four-step guide to useful program assessment.* Rockville, MD: Office for Substance Abuse Prevention. (461 pages).

This manual is specifically designed to be used by school and community personnel who are unskilled in program evaluation. It provides many worksheets and examples for the various components of evaluation: identifying goals and desired outcomes; process assessment; outcome assessment; and impact assessment, as well as 40 assessment measures. This manual can be obtained from: The National Clearinghouse for Alcohol and Drug Information, P.O. Box 2345, Rockville, MD., 20847.

McDermott, F., Pyett, P. & Hamilton, M. (1991). *Evaluate yourself: A handbook for alcohol and other drug treatment agencies.* Melbourne, Australia: National Campaign Against Drug Abuse. (52 pages).

The process of developing, implementing and using the results of an evaluation are outlined in three sections: 1) Doing the evaluation; 2) Decisions; 3) Methods. The book also includes a bibliography and glossary of terms. The focus of the book is on using informal evaluation as part of ongoing program development.

National Institute of Mental Health. (1979). *Evaluation in practice: A sourcebook of program evaluation studies from mental health care systems in the United States.* Rockville, MD: U.S. Department of Health and Human Services. (288 pages).

This is a collection of real evaluation examples from various mental health care systems throughout the United States. The examples are presented using the following categories: 1) Needs assessment; 2) Patterns of use; 3) The four A's - acceptability, availability, accessibility, awareness; 4) Client outcome; 5) Community impact; 6) Indirect services: consultation, education and inter-agency relationships; 7) Cost, cost outcome, and cost effectiveness; 8) Quality assurance; and 9) Mental health program evaluation in the year 2000.

Newman, F.L., Hunter, R.H. & Irving, D. (1987). Simple measures of progress and outcome in evaluation of mental health services. *Evaluation and Program Planning, 10, 209-218.*

This article focuses on the role of outcome measures in evaluation and on the importance of selecting appropriate measures. As well, the article identifies a number of issues that need to be taken into consideration when using outcome measures.

Nutter, R.W. & Weiden, T.D. (1988). Program evaluation and quality assurance: A reconciliation. *The Social Worker, 56(1), 18-22.*

This article describes the differences between program evaluation and quality assurance and the importance of using both to improve the delivery and effectiveness of programs. It identifies the specific issues that can be addressed by quality assurance and by program evaluation.

Offield, J.C. (1989). Quality assurance through program evaluation. *EAP Digest, Spring 1989, 25-29.*

The focus of this article is on the evaluation methods used to ensure that Employee Assistance Programs are doing what they were intended to do. Specifically, ways of evaluating the following issues are discussed: utilization of services; services provided; characteristics of participants vs. non-participants; grievance mediation services; and cost-benefit analysis.

Ogborne, A.C. & Gavin, M.T. (1990). *Quality assurance in substance abuse treatment: Guidelines for practitioners.* **Toronto: Addiction Research Foundation. (36 pages).**

This document focuses on the quality assurance process and related concerns. The first section introduces the concept of quality assurance. Substance abuse treatment programs are then discussed in terms of: 1) Management structure; 2) Program and services; 3) Program evaluation; 4) Personnel/staffing; 5) The quality assurance process; and 6) Further considerations of standard setting.

Posavac, E.J. & Carey, R.G. (1992). *Program evaluation: Methods and case studies. 4th ed.* **Toronto: Prentice-Hall. (332 pages).**

This is a comprehensive, fairly technical guide to program evaluation. It is divided into six parts:
Part I. Overview of program evaluation – 1) Program evaluation and organizations; 2) Planning an evaluation; 3) Selecting criteria and setting standards; 4) Measurement principles and tools; 5) Ethical standards of conducting program evaluations;

Part II. Evaluation in program planning and monitoring – 6) Assessment of need; 7) Monitoring the operation of programs;

Part III. Quantitative evaluation of outcome – 8) Non-experimental approaches to outcome evaluation; 9) Quasi-experimental approaches to outcome evaluation; 10) Analysis of causes of change;

Part IV. Additional approaches to program evaluation – 11) Analysis of costs and outcomes; 12) Qualitative evaluation of need, process, and outcome;

Part V. Effective application of findings – 13) Evaluation reports: interpreting and communicating findings; 14) Favourable evaluation climate: how to encourage utilization;

Part VI. Case Studies.

Rossi, P.H. & Freeman, H.E. (1989). *Evaluation: A systematic approach. 4th ed.* Beverly Hills: SAGE Publications. (496 pages).

This is the fourth edition of a popular text on classical approaches to evaluation. It consists of nine chapters: 1) Programs, policies, and evaluations; 2) Diagnostic procedures; 3) Tailoring evaluations; 4) Program monitoring for evaluation; 5) Strategies for impact assessment; 6) Randomized designs for assessment; 7) Non-randomized designs for impact assessment; 8) Measuring efficiency; and 9) The social context of evaluation. Each chapter begins with a summary of the key concepts to be discussed.

Rush, B. & Ogborne, A. (1991). Program logic models: Expanding their role and structure for program planning and evaluation. *The Canadian Journal of Program Evaluation, 6 (2), 93-105.*

This article introduces the concept of the program logic model and discusses the use of such a model in program planning and evaluation.

Rutman, L. (1980). *Planning useful evaluations: Evaluability assessment.* Beverly Hills: Sage Publications. (208 pages).

This book consists of six chapters: 1) The need for evaluability assessment; 2) Factors affecting program evaluability; 3) Evaluability assessment: program analysis; 4) Evaluability assessment: analyzing the feasibility of achieving the evaluation's purpose(s); 5) Enhancing program evaluability; and 6) Evaluability assessment and evaluation planning: questions and benefits. This book provides a useful discussion of issues that should be taken into consideration before mounting a large scale evaluation.

Sommer, R. & Sommer, B.B. (1980). *A practical guide to behavioral research: Tools and techniques.* New York: Oxford University Press.

This book describes basic research techniques in an easily understood format with lots of examples.

Spicer, J., Owen, P. & Levine, D. (1983). *Evaluating Employee Assistance Programs: A sourcebook for the administrator and counsellor.* Center City, MN: Hazelden Foundation. (89 pages).

This is a comprehensive, short, and easy-to-read guide. It includes two sections: 1) What is evaluation? and 2) How to evaluate EAPs. It guides the reader step-by-step through an actual EAP evaluation. The second section includes discussion of research methods, needs assessment, process evaluation, and impact evaluation.

U.S. Department of Health and Human Services, Public Health Service. (1989). *Making health communication programs work: A planner's guide.* Washington: National Institutes of Health. (pp. 63-71.)

Two chapters in this guide discuss the basic considerations involved in evaluating a program. As well, elements of evaluation and the utilization of the results of an evaluation are examined. These chapters provide a good summary of the types of issues to address when considering an evaluation.

Williamson, J.W. (1978). Formulating priorities for quality assurance activity: Description of a method and its application. *JAMA, 238(7), 631-637.*

This article discusses issues that need to be taken into consideration when planning an evaluation study. It guides the reader through a process of priority setting to clarify evaluation objectives in order to provide a clear starting point for evaluation planning.

Appendix A. Using EPI INFO

This appendix is organized into three sections: 1) general information on features of EPI INFO 5.0 as described in a recent release of *EPI INFO Info* (which also includes an EPI INFO order form); 2) instructions for installing EPI INFO; and 3) step-by step instructions for entering and analyzing data using EPI INFO (based on the hypothetical data used in Example H from the casebook). Additional information regarding some EPI INFO functions and some helpful hints for using EPI INFO are included in this last section.

This appendix provides a basic overview of EPI INFO to help you try out the software package. If EPI INFO appears to be suitable for the data analysis needs of the your program, the manual should be purchased.

Appendix A.1. - Recent Release of *EPI INFO*
(Reproduced with permission from Trina Peavy, USD, Incorporated)

Epi Info Info

WHAT IS EPI INFO, VERSION 5?

Epi Info is a series of microcomputer programs produced at the Centers for Disease Control, Atlanta, and the World Health Organization, Geneva, for handling epidemiologic data in questionnaire format and for organizing study designs and results into text that may form part of written reports. A questionnaire can be set up and processed in a few minutes, but Epi Info can also form the basis for a powerful disease surveillance system database with many files and record types. It includes the features most used by epidemiologists in statistical programs such as SAS or SPSS and database programs like dBASE combined in a single system that may be freely copied and given to friends and colleagues.

With Epi Info, Version 5, you can:

✔Do word processing.

✔Type a questionnaire of up to 500 lines on the screen, or in your favorite word processor.

✔Without programming, begin entering data in seconds.

✔ If desired, add range checking, legal values, automatic coding, skip patterns, and repeat fields to the entry process.

✔Enter, find, and edit data in files containing up to billions of records, if enough disk space exists.

✔Produce lists, frequencies, and multidimensional tables.

✔Do chi square, Mantel-Haenszel and Fisher exact tests, relative risk, stratified relative risk; confidence limits by the Cornfield, Robins-Greenland-Breslow, Greenland-Robins, and exact methods; means, one-way ANOVA and Kruskal-Wallis tests, multiple linear regression, matched case-control analysis, sample size, and chi square for trend.

✔Use RECODE, IF, and SELECT statements to manipulate records and variables.

✔Write programs to allow complex operations or repeated use by clerical personnel.

✔Make histograms, bar, line and pie charts, and scatter plots from within the ANALYSIS program.

✔Import fixed-length, comma-delimited, dBASE or Lotus 1-2-3 files. Use dBASE files directly in ANALYSIS.

✔Export files in 12 different popular formats or process files and create new files of results.

✔Create relational file systems, linking several different questionnaire files during data entry and again for ANALYSIS.

✔Update files by merging in revised records.

✔Create index files for rapid searching of large data sets.

✔Perform anthropometric calculations using international reference standards.

✔Develop customized reports in your own format.

✔Program the word processor to perform complex tasks automatically.

The programs included in Epi Info are:

EPI -- The main menu that allows access to other programs.

EPED -- A word processor for creating questionnaires or for general use. A special facility called EPIAID in EPED runs

programs that assist in text preparation and in the design of epidemiologic investigations.

ENTER -- Produces a data file automatically from a questionnaire created in EPED or another word processor. Manages entry of data from a questionnaire into a disk file. Allows revision of file format even after records have been entered.

ANALYSIS -- Produces lists, frequencies, cross tabulations, and a variety of other results from Epi Info or dBASE files. Appropriate epidemiologic statistics accompany the tables. Records may be selected or sorted using defined variables, "IF" statements, and mathematical and logical operations. Graphing, complex report formatting, generation of new data sets for testing, and a programming language are included in ANALYSIS. Data items spread over several files can be linked and analyzed as a single unit.

CHECK -- Sets up ranges, legal values, automatic coding, and skip patterns for the ENTER program, if desired. Mathematical and logical operations between fields, complex jump patterns, access to several files in the same entry process, and use of custom programs provided by the user are also supported by CHECK.

STATCALC -- Calculates statistics from table values entered from the keyboard. STATCALC performs calculations for single and stratified 2-by-2 tables, sample size, and single and stratified chi square for trend using the Mantel extension of the Mantel-Haenszel procedure.

CONVERT -- Converts data files from Epi Info into 12 other formats for a variety of database and statistics programs.

IMPORT -- Brings in files from other systems so that they can be used in Epi Info.

MERGE -- Merges files produced from questionnaires with the same or different formats. This allows combining data files entered on different computers, and updating of previous records using data from new entries.

VALIDATE -- Compares two Epi Info files entered by different operators and reports any differences.

Help files -- Much of the material in the reference section of the manual is available in help files accessed by pressing <F1> from within Epi Info programs.

Sample Programs --Two complete sample surveillance systems, files from two epidemic investigations and a system for anthropometric calculations in nutritional surveys, are provided as examples of Epi Info use. There are numerous other sample data files, and many programming examples are provided in the manual.

Tutorials-- Complete interactive tutorials are provided to introduce the features of EPED and ANALYSIS.

Epi Info, Version 5, requires an IBM-compatible microcomputer running the PC-DOS or MS-DOS operating system (Version 2.0 or higher), 512,000 bytes of random-access memory (RAM), and at least one floppy disk drive. A graphics adapter board is necessary to produce graphs. Adapters using the Hercules or IBM monochrome, EGA, VGA, IBM3270, IBM8514, and AT&T standards are supported. A printer is needed to produce printed copies of the results; graphs can be printed with IBM- or Epson-compatible printers or with Hewlett-Packard-compatible laser printers or plotters. For most effective use of Epi Info with large data sets, a hard-disk drive, 640 K of memory, and a color graphics board and monitor are recommended.

Data files can consist of as many records as DOS and your disk storage can handle (billions). A questionnaire can have up to 500 lines or approximately 20 screens. The number of variables is not limited, except that they must fit in the 500 lines. The maximum length for a text variable is 80 characters. The total length of variables in one file must not exceed 2048 characters. The programs in Epi Info require less than two megabytes of disk space.

Versions 1-3 of Epi Info were produced in the Epidemiology Program Office of the Centers for Disease Control (CDC). Version 4 was produced and distributed on an experimental basis by the Surveillance, Forecasting, and Impact Assessment Unit, Global Programme on AIDS, World Health Organization (WHO), Geneva, Switzerland, in collaboration with CDC. Version 5, the current version, is a joint CDC/WHO effort.

The programs are made available by WHO and CDC and are not copyrighted. Making copies for others is permitted and encouraged. Please provide access to copies of the manual if you distribute the programs.

WHAT'S NEW IN VERSION 5?

For users familiar with Version 3, the new features in Version 5 are:

✔True missing value indicators

✔Fixed decimal fields

✔European date fields (dd/mm/yy)

✔New mathematical and string functions: RND, RAN, LOG, EXP, LN, TRIM

✔BROWSE and UPDATE commands in ANALYSIS for viewing and modifying data sets.

✔Linear regression with up to 15 variables

✔Direct analysis of dBase II and dBase III files without using IMPORT.

✔Creation of sample data sets, using the GENERATE command

✔A revised users' manual with many sample programs

✔Histograms, bar charts, line charts, pie charts, and scatter plots with regression lines within ANALYSIS.

✔Easy revision of data files

✔Files of up to four billion records, if disk space allows

✔LIST * to list all fields automatically

✔Defining of fields in ANALYSIS as in questionnaires, using the standard field indicators, such as ##.##

✔Sample size calculations

✔Chi square for trend using the Mantel extension with single and stratified tables

✔Analysis of case-control studies with matching

✔Tutorials in EPED and ANALYSIS

✔Interactive programs for making questionnaires, EPI I memos, and study design descriptions in a new facility for interactive text generation called EPIAID.

✔Improved editor (EPED) with pagination, better and faster formatting, user-defined colors, and additional commands.

✔Programming features in EPED allow interactive text creation (EPIAID)

✔Complex report formatting in ANALYSIS using report format files

✔Mathematical operations and comparisons among multiple fields during data entry

✔Loops and subroutines in ANALYSIS programs

✔Searching on combinations of fields in ENTER

✔Custom routines for data entry written by the user

✔Automatic numbering of questionnaire records

✔Pop-up windows, special highlighting, and other features for entry forms

✔Relational linking of several files in ANALYSIS using the RELATE command

✔Relational data entry, switching automatically between files when necessary. A database can contain files for demographic information, hepatitis, enteric disease, and other subjects, for example, each with a different questionnaire.

✔Indexed file searches for rapid retrieval of records

✔A REPORT command that allows customization of tables and other reports

✔Ability to save preference settings in ANALYSIS

✔Provision for non-English character sets.

✔Compatibility with Version 3 data files. Programs written for Version 3 require only a few changes for Version 5. Version 5 data files should not be used in Version 3 of Epi Info.

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EPI-INFO ORDER FORM

VERSION 5.01B COMES WITH FOUR 5 ¼" DS/DD AND TWO 3 ½ DS/DD IBM COMPATIBLE DISKETTES AND A 384 PAGE PRINTED MANUAL.

SHIP TO:

LAST
NAME _____ FIRST _____ MIDDLE _____

STREET
ADDRESS
ONLY!
NO P.O.
BOXES!!!!

CO. NAME _____

ADDRESS _____

ADDRESS _____

CITY/PROVINCE _____ STATE _____

COUNTRY _____ POSTAL CODE _____

TELEPHONE (_____) _____ - _____ FAX #(_____) _____ - _____

IS THIS A RESIDENTIAL ADDRESS? (Y) (N)

CHECK ENCLOSED [   ] OR PLEASE BILL MY: MASTERCARD [   ] VISA [   ] AMERICAN EXPRESS [

NAME ON CARD _____

CREDIT CARD NUMBER _____ EXP. DATE _____

DESCRIPTION	QTY	COST	TOTAL
COMPLETE SET (DISKS & MANUAL)	_____	X $38.00 =	_____
DISKETTES ONLY	_____	X $15.00 =	_____
MANUAL ON DISK	_____	X $15.00 =	_____
VIDEO TAPE NTSC	_____	X $22.00 =	_____
PAL	_____	X $22.00 =	_____
SECAM	_____	X $22.00 =	_____
VIDEO + MANUAL + DISKETTES	_____	X $55.00 =	_____
FREIGHT PER MANUAL (OUTSIDE CONTINENTAL U.S.A.)	_____	X $10.00 =	_____

Credit Card, Check, Money Order, or U.S. Federal Government purchase order required unless approved in advance.
[   ] Check or money order enclosed, payable to U.S.D., Inc. (Must be drawn on U.S. Bank)

SPECIFY: ENGLISH (   ) SPANISH (   )   **TOTAL** _____   RECNO _____

USD, Inc. - 2075-A West Park Place, Stone Mountain, Georgia 30087 (U.S.A.)

Appendix A.2 - Installing EPI INFO 5.0

The following provides instructions for installing the EPI INFO program onto either your computer hard drive or onto floppy disks. Chapter 4 of the EPI INFO Version 5 manual provides more detailed instructions for installing EPI INFO as well as additional information on the choices available at different points of the installation procedure.

Installing EPI INFO 5.0 to a Hard Drive (C: or D:)

1.   Insert Disk 1 of EPI INFO into drive A (or B, depending on the size of the disk and drive).

2.   Type **A:** (or B:), and press the **ENTER** key.

3.   Type **INSTALL**, and press the **ENTER** key.

     This will start the Install program, which will prompt you for information on the source drive you are using, the destination drive you want to install EPI INFO on, and other information.

4.   Enter **A** (or B) for the "source drive" in the top left section of the initial Install screen.

5.   Enter **C** (or D) for the "destination drive" in the top right section of the screen.

6.   Enter **N** for "no removable disks" in the last line of the top right section of the screen.

7.   Enter **I** for "install program for use" in the line under top two sections. (You can enter **C** at a later time to copy the EPI INFO Install program onto disks for further distribution of the EPI INFO program. The DOS command **DISKCOPY** can also be used to copy the EPI INFO Installation Disks).

8.   Choices for the video card that is used by your system are indicated in the bottom right hand section of the screen. Type the correct number in bottom left section (if the computer has not already done this), and press the **ENTER** key.

9.   Press the **F4** key to continue the installation procedure.

10. The EPI INFO install files are divided into groups on the disks.

     On the "Installing EPI INFO" screen that appears, you will be asked to indicate the distribution disk number with which the installation should begin.

Select **1** to install the basic EPI INFO structure (unless you have previously installed Group 1). As EPI INFO installs itself, it will "beep" from time to time to ask you which of the additional eight groups you want to have installed.

It is easiest to install all of the groups, but if your computer has limited space, do not install groups 6, 7 and 8.

Press the **ENTER** key to have the groups you want installed. Press **ESC** (the Escape key) to skip a group.

Each time a group is chosen for installation, the screen will show the files being installed.

You will be prompted to insert additional EPI INFO installation disks as necessary.

You can exit the Install program at any time by pressing the **F10** key (unless you are copying the Install program).

11. Following the installation of the EPI INFO groups, enter **Y** to edit your AUTOEXEC.BAT and CONFIG.SYS files.

12. EPI INFO is now installed. Read the next screen. Enter **Y** to register with EPI INFO, or type **N** to end the installation program.

Starting the EPI INFO program from the hard (C: or D:) drive

- To start the program, enter **CD EPI5** in response to the "C prompt" (the "C:\>" prompt appears at the left of the screen).

- When C:\EPI5 appears on the screen, type **EPI** and press **ENTER**. The EPI INFO Main Menu will appear on the screen.

Setting Printer Options

- If you have a dot matrix printer, you will not have to worry about setting any printer options. However, if you have a laser printer or plotter you should create a special CONFIG.EPI file using the EPED Text Editor program listed on the EPI INFO Main Menu.

- Choose EPED on the EPI INFO Main Menu, and press **ENTER**.

- If you have a Hewlett Packard compatible laser printer, type in the following on the "text screen" that appears:

        SET PRINTER = HP
        PLINES = 60

    Press the **F9** key to save these settings into a file. When prompted for the file name, type **CONFIG.EPI**, and then press **ENTER**. The file is now saved and will permanently maintain these settings (unless, at a later date, you edit the CONFIG.EPI file and change the printer settings).

    Press the **F10** key to exit **EPED**.

- If you have a Hewlett Packard compatible plotter, refer to the EPI INFO Version 5 manual for the printer settings required for plotters.

Installing EPI INFO onto disks (A: and B:)

If a "hard drive" is not available on the computer you are using, make sure the following disks are on hand. If you are installing to:

- 5-1/4", double-sided, double density disks, have 9 disks on hand;
- 5-1/4", double-sided, high density disks, 3 disks are required;
- 3-1/2", double-sided, double density disks, 5 disks are needed,
- 3-1/2", double-sided, high density disks, only 2 disks are needed.

All disks should be formatted, blank, and have a blank label.

1. Follow Steps 1 through 4 provided in the instructions for installing EPI INFO to a hard drive.

2. Enter **B** (or A) for the "destination drive" in the top right section of the screen.

3. Enter **Y** for "removable disks" in the last line of the top right section of the screen.

4. Follow Steps 7 through 10 provided in the instructions for installing EPI INFO to a hard drive.

    Note that:

    - one installed group will require one 5-1/4" double sided, double density disk;

- two to three installed groups will fit on one 5-1/4" double sided, high density disk,
- two installed groups will fit on one 3-1/2" double sided, double density disk,
- four to five installed groups will fit on one 3-1/2" double sided, high density disk.

Change disks as prompted, then label each disk with the name of the groups that have been installed on it.

5.   Follow Steps 11 and 12 provided in the instructions for installing EPI INFO to a hard drive.

Starting the EPI INFO program from a disk (A: or B:) drive

- Insert Disk 1 of the installed EPI INFO program in the floppy drive.

- At the **A:** (or B:) prompt, type **EPI** and press the **ENTER** key. The EPI INFO Main Menu will appear on the screen.

Setting Printer Options

- If you have a dot matrix printer, you will not have to worry about setting any printer options. However, if you have a laser printer or plotter you should create a special CONFIG.EPI file using the EPED program listed on the EPI INFO Main Menu.

   Follow instructions provided in the section on installing EPI INFO to a hard drive for creating a printer setup file.

Appendix A.3 - Data Entry and Analysis Using EPI INFO 5.0

The 3 basic programs in EPI INFO 5.0 include:

- **EPED**, a Text Editor program that can be used for general word processing or creating other text files, including questionnaires;

- **ENTER**, a Data Entry program that is used to enter responses to a questionnaire or other data into a database; and

- **ANALYSIS**, a Data Analysis program. ANALYSIS can be used to produce a list of data records, to manipulate data, to calculate basic descriptive statistics (including frequencies and means) and other inferential statistical analyses, and to produce graphs.

Other more advanced programs that are useful for data management are available in EPI INFO 5.0:

- **CHECK** is a program that can detect errors in data entry, by checking coding of values, legal values, skip patterns, etc.;

- **CONVERT** converts data files from an EPI INFO format into other standard formats (e.g., SAS, SPSS-X, LOTUS 1-2-3, dBASE II and III, and Statpac);

- **IMPORT** transforms files created in other software packages for use in EPI INFO; and

- **MERGE** is used to combine separate data files with the same structure into a single database.

There are two programs you will probably rarely use:

- **STATCALC** which calculates statistics for 2 by 2 to 2 by 9 tables (this can also be done using the **ANALYSIS** program); and

- **VALIDATE** which can be used to compare files entered by two different people to identify discrepancies in data entry.

The following pages provide a step-by-step guide that describes the process of preparing data for analysis and conducting some simple statistical analyses using the **EPED**, **ENTER**, and **ANALYSIS** programs in EPI INFO 5.0. (You can explore these programs on your own, or you can refer to the EPI INFO Version 5.0 manual for more information on the programs available in EPI INFO.)

The hypothetical data used in this example is taken from the fictional prevention program for high-risk youth described in Example H from the casebook.

You will recall that clients who attended the Youth Addiction Services Education Program completed a feedback form at the end of the fourth session of the program (see Section H, Part 2). These questionnaires were completed anonymously. At the end of the year the program secretary gathered all the feedback questionnaires that clients had completed and identified the information on the forms that would be used for the analyses. Although the instructions that follow in this section do not closely follow the procedures that were used to generate the statistical output included in Section H, Part 2 and 3, they will show how data collected on questionnaires can be prepared for statistical analysis and then be analyzed.

Preparing the Questionnaire for Data Entry

1. Using a blank Feedback Questionnaire, circle each "variable," or piece of information that you are interested in analyzing.

    Because the forms were completed anonymously, you should also add the variable "ID" to the top right hand corner of the form. Each questionnaire should be given a unique number to identify the questionnaire. These identification numbers are not intended to be Client ID#'s that identify actual clients, but are used simply to identify a questionnaire for cross-checking purposes if questions arise at a later date about the integrity of the data that was entered into the computer.

2. Give each variable a name that consists of 10 characters or less (e.g., "Identification" is too long - it is 14 characters long; "ID" is acceptable at two characters). In this example we use ID, ALCOHOL, DRUGS, WHYUSE, HEALTHIER, VIDEOS, DISCUSSION, HANDOUTS, AGE, GENDER, and REFERRAL as variable names.

3. Next, identify the variable type (and format when appropriate) for each variable. This information will ensure consistency in data coding and data entry. In this example, variable types include:

    (a) sequential identification number: <idnum>*;
    (b) numeric variable: #, ##.#, etc., which indicates the number of digits, and whether the number includes a decimal point; and
    (c) alphanumeric variable (letters and/or numbers): <A>, <A > which indicates the number of characters used for coding a variable.

    [* It should be noted that when actual Client ID numbers are used, a numeric variable type should be used. This would give you control over the ID numbers that would be entered for individual clients or respondents.]

More information on variable field types is provided in Chapter 7 of the EPI INFO 5.0 Manual; also, the sub-menu "Questions" under the Text Menu in the EPED Text Editor program (which is accessed by pressing the **F4** key) lists all field types used by the EPI INFO statistical program.

Figure 1 shows the results of following Steps 1-3.

4. At this point, going back to each feedback questionnaire that was completed by program participants and highlighting the information on the forms that will be entered on the computer would make the task of entering the data easier.

    But before you can enter the data you have to create a data entry form using the EPED Text Editor and ENTER Data Entry programs in EPI INFO 5.0.

Figure 1.

ID < idnum >

Youth Addiction Services Education Program

Feedback Questionnaire

Please rate how useful you found each of the four education sessions:

		not at all useful	<u>Circle one</u>			very useful	Check here if you did not attend that session	
I.	Alcohol and its effects	1	2	3	4	5	☐	ALCOHOL #
II.	Other drugs and their effects	1	2	3	4	5	☐	DRUGS #
III.	Why people use	1	2	3	4	5	☐	WHYUSE #
IV.	Making healthier choices	1	2	3	4	5	☐	HEALTHIER #

Please rate how useful you found each of the three different presentation formats.

	not at all useful	<u>Circle one</u>			very useful	
Videos	1	2	3	4	5	VIDEOS #
Group discussion	1	2	3	4	5	DISCUSSION #
Handouts	1	2	3	4	5	HANDOUTS #

Age: _____   AGE ##

Gender: ☐ male   ☐ female   GENDER < A >

Who referred you to the program?   *(Check one only - if uncertain, ask counsellor.)*

    1. ☐ family or friends
    2. ☐ legal system
    3. ☐ school   REFERRAL #
    4. ☐ self
    5. ☐ other

THANK YOU FOR HELPING US TO IMPROVE OUR PROGRAM !

Creating a "Data Entry Form" using the EPED Text Editor

```
╔══════════════════════════════════════════════════════════════╗
║                    NOTES ON USING EPI INFO                     ║
║                                                                ║
║   ●   To move through a text or screen use the arrow keys (↑ ↓ ← →). ║
║                                                                ║
║   ●   To exit or quit any program in EPI INFO, press F10.      ║
║                                                                ║
║   ●   To return to the Main Menu at any time, press ESC until the Main Menu appears. ║
║                                                                ║
╚══════════════════════════════════════════════════════════════╝
```

EPED is a Text Editor program that can be used for general word processing or creating other text files, including questionnaires.

1.   Start the EPI INFO 5.0 program by entering **EPI** in response to the C:\EPI5> prompt, or A:> prompt (see instructions on starting the EPI INFO program under "Installing EPI INFO to a Hard Drive", and "Installing EPI INFO onto disks").

     The EPI INFO Main Menu will appear on the screen.

2.   Choose **EPED** on the EPI INFO Main Menu.

3.   A "text screen" will appear (a screen with a "menu" across the top, some information across the bottom, and a blank section in the middle). You will type all of your variable names and indicate variable types and formats on this screen and then save the file as a questionnaire file.

     This questionnaire text file will later be used as a "data entry form" (a programmed form which makes it easy to enter data into a data file).

     If you are preparing a questionnaire or other data collection forms at the beginning of an evaluation project, you can use EPED to create the forms. Even if the questionnaire has already been prepared (as is the case in this example), a questionnaire text file must be created.

     Simply type in the questions that appear on the questionnaire, or the variable names you have selected for your data.

     Using the example presented above in "Preparing the Data for Analyses," type **ID** on the first line of the text screen, then press the **F4** key for the TEXT menu, and choose **Questions**. Next, choose the **<idnum>** format. Type **5** to indicate the number of digits to use for this field.

On the screen you will see:

ID <idnum>

Press the **ENTER** key.

4.   Next, type **ALCOHOL**. Press the **F4** key, choose **Questions**, and select **##**. Type **1** for the number of digits before the decimal, and press **ENTER**. Type **0** for the number of digits after the decimal, and press **ENTER**.

On the screen you will see:

ALCOHOL #

Press the **ENTER** key.

5.   Repeat Step 4 for each of the remaining variables, making the following substitutions:

Variable Name	Variable Type and Format*
DRUGS	# (1, 0 decimals)
WHYUSE	# (1, 0 decimals)
HEALTHIER	# (1, 0 decimals)
VIDEOS	# (1, 0 decimals)
DISCUSSION	# (1, 0 decimals)
HANDOUTS	# (1, 0 decimals)
AGE	## (2, 0 decimals)
GENDER	<A> (1)
REFERRAL	# (1, 0 decimals)

[* EPI INFO will prompt you for the number of digits or characters for *idnum*, *text, numeric,* and *alphanumeric* data. The numbers you should enter for the variables listed in the table are indicated in brackets.]

Figure 2 displays what you should see on your screen when you have finished typing in all of the variable fields for your Feedback Questionnaire form).

Figure 2. Feedback Questionnaire (FEEDBACK.QES)

ID <idnum>
ALCOHOL #
DRUGS #
WHYUSE #
HEALTHIER #
VIDEOS #
DISCUSSION #
HANDOUTS #
AGE ##
GENDER <A>
REFERRAL #

6. Check your entries for accuracy. You can use the arrow keys (↑ ↓ ← →) to move around the screen. If you have made a mistake, simply delete your entry using the **DEL** key or ← **BACKSPACE** key, and re-enter the variable name and format.

Press the **F9** key to save your file. You will need to provide a filename to save your file. Filenames cannot be any longer than eight letters, but can be followed by a period and up to three letters can be used for an extension.

File extensions are often used to identify the contents of the file. EPI INFO uses three main extensions to identify the following types of files:

- .QES for an EPI INFO questionnaire file
- .REC for an EPI INFO data or record file
- .CHK for an EPI INFO check commands file

Type **FEEDBACK.QES** and press **ENTER**.

The "extension **.QES**" identifies the file as an EPI INFO questionnaire file.

The EPI INFO questionnaire file will be converted into a "data entry form" in the next section which describes the EPI INFO **ENTER** or data entry program.

7. Press **F10** key to exit the **EPED** Text Editor program.

Description of Some EPED Functions and Other Helpful Hints

1) Function keys in EPED:

Ten "function" keys are used in EPED. To activate a function, simply press the identified key. To exit from any of the functions, press **ESC** (the Escape key). We would like to draw particular attention to the **F3** key which brings up the **EPIAID** tutorial for EPED.

- **F1** - Hlp: provides help on different topics related to the EPED program

- **F2** - File: lists file-related functions available in EPED

- **F3** - EPIAID: accesses the EPED tutorial

- **F4** - Txt: includes a number of text related functions

- **F5** - Print: activates the print setup screen

- **F6** - Set: lists setup functions

- **F7** - Find: lists a number of find, replace and move functions

- **F8** - Blk: allows you to perform copy, move, delete and other functions on an identified block of text

- **F9** - Save: saves your file

- **F10** - Done: exits EPED and returns to the EPI INFO main menu

2) Helpful Hints on Using EPED to Create a Questionnaire

- NEVER include the following characters in the text of the questionnaire as they are data entry field identifiers:

_	(underscore)
#	(number sign)
< or >	(less than or greater than signs)

● Variable names cannot be longer than 10 characters. If a question on the questionnaire is longer than 10 characters, you can place { }'s around the characters you want to be used for the variable name on the data entry form. For example:

What appears on the questionnaire?	Variable Name
Age	AGE
What is your age in years?	WHATISYOUR
What is your {age} in years?	AGE
What is your {age} in {years}?	AGEYEARS
What is your {age in years}?	AGEINYEARS

Entering Data using the ENTER Data Entry Program

NOTES ON USING EPI INFO

- **To move through a text or screen use the arrow keys (↑ ↓ ← →).**

- **To exit or quit any program in EPI INFO, press F10.**

- **To return to the Main Menu at any time, press ESC until the Main Menu appears.**

Once the questionnaire is completed, data may be entered into a computer file using **ENTER**, the EPI INFO Data Entry program that is used to enter responses to a questionnaire or other data into a database.

1. Highlight **ENTER** on the EPI INFO Main Menu, and press **ENTER.**

2. You will be asked for the name of the data or records file you want to use to enter data.

   Because the "record file" for FEEDBACK.QES does not yet exist, you need to create it at this point.

   Type in **FEEDBACK** to identify the record file you want to create as **FEEDBACK.REC.** Press **ENTER.**

   EPI INFO will respond with a note that FEEDBACK.REC will be created.

   Press **ESC** (the Escape key) to create **FEEDBACK.REC**.

3. EPI INFO will ask you to specify the questionnaire file you want to base your record file on.

   Type in **FEEDBACK** to identify the associated questionnaire file as **FEEDBACK.QES.**

   EPI INFO will create a record file from **FEEDBACK.QES,** and a data entry form that is similar to Figure 2 will appear on the screen. The highlighted areas beside each listed "variable name" are called "data entry fields." You will enter data in these fields.

Steps 4 through 9 describe EPI INFO procedures for entering hypothetical data for the Youth Addiction Services Education Program Feedback Questionnaire. The data that are used in this section and subsequent sections correspond to the data that were used in Section H. If you like, you can enter a set of your own fictitious data, or you can use the data we have used here.

Figure 3 provides a listing of the data set used in Section H (Figure 3 is presented in the next section on *"Analyzing Data using the ANALYSIS program"*).

4. The Client ID number will appear automatically. Ensure that the ID number that appears on the screen corresponds to the ID number you record on the questionnaire.

The cursor will move to the beginning of the next field.

5. Type in responses in the appropriate range for all of the variables (e.g., ALCOHOL: 1-5; GENDER: M,F), or enter the data listed in Figure 3 for **Rec 1**.

Just above the bottom line of the screen at the left both the name of the current variable and the type of responses that will be accepted for the variable are identified.

In the case of missing data, press **ENTER** to skip the field.

6. After data has been entered in the last field of the screen, the following appears in place of the variable name at the bottom of the screen:

   Write data to disk (Y/N)?

Check to ensure the accuracy of the data entered (this is an especially important step when entering real data). If corrections need to be made, type **N** to return to the first data entry field. Use the arrow keys (↑ ↓) to move to the field(s) that requires correction and make the necessary modification(s).

When all corrections have been made, press the **END** key to move to the bottom of the record. You will be asked if you want to write the data to disk. Type **Y** to add the record to the database.

In the bottom right hand corner, **"Rec= 1"** will change to **"Rec= 2"**. The Record number increases by one each time a new record is completed and saved.

7. Repeat Steps 4 through 6 to enter the data for all of the cases.

8. When all "cases" or "records" have been entered and written to disk, press **F10** to exit from the **ENTER** program.

Description of Some ENTER Functions and Other Helpful Hints

1) Function keys in ENTER:

Across the bottom of the screen, the following function keys used in ENTER are listed:

- **<CTRL-N>** - New: use to enter a new record;

- **<CTRL-F>** - Find: will brings up a sub-menu that lists the special function keys used to find records;

- **F5** - Print: will print data entries for all records or a specified subset of the records;

- **F6** - Delete: will mark the record as deleted with an asterisk (*); deleted records are ignored when conducting analyses;

- **F9** - Choices: shows any codes that have been ignored in the setup for automatic coding in a specified field;

- **F10** - Done: exits ENTER and returns to the EPI INFO main menu.

2) *Helpful Hints on Using ENTER to Enter Data:*

- When entering or editing data, remember that pressing **END** will move the cursor to the end of the record and bring up the **"Write data to disk?"** prompt.

Analyzing Data using the ANALYSIS Program

NOTES ON USING EPI INFO

- To move through a text or screen use the arrow keys (↑ ↓ ← →).

- To exit or quit any program in EPI INFO, press F10.

- To return to the Main Menu at any time, press ESC until the Main Menu appears.

ANALYSIS is a Data Analysis program that can be used to produce a list of data records, manipulate data, calculate basic descriptive statistics (including frequencies and means) and other inferential statistical analyses, and produce graphs. The bottom section of the screen displays the commands you select from sub-menus in ANALYSIS. You can also type in commands yourself in this section of the screen. The following instructions are based on use of the sub-menus for developing and executing command statements.

Selecting a Data File and Viewing the Database

1. Highlight **ANALYSIS** on the EPI INFO Main Menu, and press **ENTER.**

2. Type **READ FEEDBACK.REC** to select the Feedback record file for analysis. Press **ENTER.**

3. Press the **F2** key for the Command Menu, choose **BROWSE** and press **ENTER.** Press **ENTER** again. The database will appear on the screen. Use the arrow keys (↑ ↓ ← →) to move through the database.

4. Press **ESC** (the Escape key) to return to the **ANALYSIS** screen.

Accessing the Printer and Creating a Heading for Printer Output

The output, or results of every command that is executed in **ANALYSIS,** can be printed to three output formats - the screen, a printer, or a file. The default is set to show all output on the screen.

- To print to the printer you can:

  1) press **F5** until the bottom of screen reads "F5 - PRINTER OFF" (*yes! to print to the printer, you turn it to off!!!*); or

2)   press **F2**, highlight **ROUTE**, press **ENTER**, type **PRINTER** and press **ENTER**; or

3)   type **ROUTE PRINTER** and press **ENTER**.

● To print to a file (that can be edited or printed later):

1)   press **F2**, highlight **ROUTE**, press **ENTER**, type in a filename and press **ENTER**; or

2)   type **ROUTE (filename.ext)** and press **ENTER**.

Examples of extensions you can use to identify the output file include .OUT (for "output"), .LIS (for "listing"), .RES (for "results"), .SUM (for "summary"), or .DOC (for "document"). So, for example, the filename FB-FREQS.OUT could be used to identify a file that contains the output of frequency analyses conducted on FEEDBACK.REC data.

If you want to direct the output to a file on a floppy disk, remember to identify the disk when specifying the filename (e.g., A:\FB-FREQS.OUT).

The following provides instructions for directing output to your printer and specifying a header for your output:

1. Press the **F5** key so that the printer status indicator on the bottom of the screen switches to **"F5-Printer off."** Your output will now automatically be sent to the printer for the duration of your analysis session.

2. Press **F2**. Highlight **HEADER**, and press **ENTER**. Type "1_" (the number 1 and then one space) and your name. Press **ENTER**.

Your name will now be printed at the top of each page of output that is printed (that is, unless you decide to change the header for different runs during the analysis session).

Checking the Data (to make sure that they are accurate)

1. Press **F2**. Highlight **LIST**, type *, and press **ENTER.**

A listing of the data will be shown on the screen of your computer (see Figure 3). The listing will also be sent to your printer.

The listing of the data that were used in Section H in the casebook is shown in Figure 3.

2. If you entered the data from Section H, check the accuracy of your data against the data listed in Figure 3. When you are entering real data, you would check your data listing against the responses made in the original questionnaires.

Figure 3. *LIST** - List of all variables of all records

REC	ID	ALCOHOL	DRUGS	WHYUSE	HEALTHIER	VIDEOS	DISCUSSION	HANDOUTS	AGE	GENDER	REFERRAL
1	1	4	4	4	4	4	4	3	16	F	2
2	2	3	4	4	4	3	4	3	17	M	3
3	3	3	3	5	5	3	4	4	18	F	2
4	4	1	.	.	.	.	.	.	16	M	3
5	5	5	5	5	5	5	5	5	16	F	3
6	6	3	4	4	4	4	4	4	19	M	1
7	7	5	5	5	5	5	5	5	16	F	3
8	8	5	5	5	5	4	5	5	20	M	5
9	9	4	4	3	3	3	5	4	17	M	2
10	10	5	5	5	5	5	5	5	16	F	1
11	11	2	.	.	.	.	.	.	16	F	3
12	12	3	3	3	4	4	5	2	18	F	2
13	13	2	3	3	4	2	5	2	19	M	3
14	14	5	5	5	5	5	5	5	16	F	1
15	15	3	5	4	3	2	3	2	17	M	2
16	16	3	3	.	.	.	.	.	16	F	1
17	17	3	4	3	4	3	4	3	19	F	2
18	18	5	5	5	5	5	4	4	16	M	3
19	19	5	5	5	5	5	5	3	17	F	3
20	20	2	.	.	.	.	.	.	16	F	3
21	21	3	5	5	5	4	5	5	16	F	4
22	22	2	2	2	2	3	4	2	21	M	2
23	23	5	4	4	4	5	5	4	19	F	4
24	24	5	5	5	5	5	5	5	16	F	5
25	25	2	2	2	2	2	2	2	21	M	2
26	26	4	4	4	5	3	5	4	19	M	1
27	27	3	3	3	4	3	4	4	23	M	4
28	28	3	3	3	4	3	4	3	18	M	2
29	29	5	5	5	5	5	5	5	16	F	1
30	30	4	5	5	5	5	5	4	16	M	4
31	31	4	.	.	.	.	.	.	21	M	1
32	32	5	5	4	5	5	5	4	16	F	3
33	33	5	5	5	5	5	5	5	16	F	5
34	34	5	5	5	5	5	5	5	19	M	5
35	35	5	4	5	5	5	5	5	17	F	3
36	36	4	3	3	3	3	5	4	16	M	2
37	37	2	2	2	2	2	3	2	19	M	2
38	38	.	.	.	.	.	.	.	16	M	2
39	39	3	4	4	4	3	5	5	18	F	4
40	40	4	5	5	5	4	4	4	16	M	4
41	41	4	4	5	5	3	4	4	21	M	5
42	42	4	5	5	5	4	4	4	16	F	4
43	43	4	4	.	.	.	.	.	17	M	3
44	44	3	4	4	4	3	3	3	18	M	3
45	45	5	5	5	5	5	5	4	17	M	3
46	46	4	5	5	5	4	5	4	16	M	1

If there are corrections to be made, circle the mistakes on the printout.

Press **F2**; choose **UPDATE** and press **ENTER**. The database will appear on the screen.

In the top left hand corner, the current data entry field is identified. The Record number appears in the left hand column. Use the arrow keys (↑ ↓ ← →) to move to the information you circled on the printout.

Type in the correct data, and press **ENTER**.

When all corrections are made, press **ESC** (the Escape key).

3. The database should now be correct. Check the database again by printing a listing of the data and checking it against: 1) the corrections that were indicated, or 2) against the original questionnaires to thoroughly verify the accuracy of the database.

Press **F2**. Highlight **NEWPAGE**, and press **ENTER**.

Press **F2**. Highlight **LIST**, type *, and press **ENTER.**

A second listing of the database will be printed.

Once it is confirmed that the data are accurate, continue with the statistical analyses presented in the following examples.

Examples of Statistical Analyses

#1- To generate FREQuencies of categorical responses (GENDER, REFERRAL):

1. Press **F2**. Highlight **NEWPAGE**, and press **ENTER**. Press **ENTER** a second time.

2. Press **F2**. Highlight **FREQ**, and press **ENTER**.

3. Press **F3**. Highlight **GENDER**, and press **ENTER**.

4. Repeat Step 2, choosing **REFERRAL** as the next categorial variable.

5. The bottom line of the screen, or the command line, should read:

    FREQ GENDER REFERRAL

Press **ENTER.**

Frequency tables for each of the three variables will be generated at the printer.

6. See Figure 4 which shows the output from this analysis.

Figure 4. Output from FREQ GENDER REFERRAL

```
GENDER ¦  Freq  Percent   Cum.
-------+----------------------
1      ¦    25   54.3%    54.3%
2      ¦    21   45.7%   100.0%
-------+----------------------
 Total ¦    46  100.0%

Sum                  =     67.00
Mean                 =      1.46
Standard deviation = 0.50


REFERRAL ¦  Freq  Percent   Cum.
---------+----------------------
1        ¦     8   17.4%    17.4%
2        ¦    12   26.1%    43.5%
3        ¦    14   30.4%    73.9%
4        ¦     7   15.2%    89.1%
5        ¦     5   10.9%   100.0%
---------+----------------------
   Total ¦    46  100.0%

Sum                  =    127.00
Mean                 =      2.76
Standard deviation =  1.23
```

7. Continue to #2, or press **F10** to quit ANALYSES. At this point you can choose **QUIT** on the EPI INFO Main Menu to end the session.

#2- To generate MEANS or averages of continuous variables (AGE, ALCOHOL, VIDEOS):

(Note: MEANS analyses must be conducted separately for each variable.)

1. Press **F2**. Choose **NEWPAGE**, and press **ENTER**.

2. Press **F2**. Highlight **MEANS**, and press **ENTER**.

3. Press **F3**. Highlight **AGE**, and press **ENTER**. Press **ENTER** again.

    A printout of the results of the **MEANS** analysis will be generated at the printer.

4. Repeat steps 1 through 3, choosing the variable **ALCOHOL** in Step 2.

5. Repeat steps 1 through 3, choosing the variable **VIDEOS** in Step 2.

6. See Figure 5 which shows the output from these analyses.

7. Continue to #3, or press **F10** to quit ANALYSES. At this point you can choose **QUIT** on the EPI INFO Main Menu to end the session.

#3- To generate TABLES or Crosstabs for two categorical variables (GENDER, REFERRAL):

1. Press **F2**. Highlight **NEWPAGE**, and press **ENTER**.

2. Press **F2**. Highlight **TABLES**, and press **ENTER**.

3. Press **F3** and choose **GENDER**.

4. Press **F3** and choose **REFERRAL.**

5. The command line should read:

   TABLES GENDER REFERRAL

   Press **ENTER** to generate the crosstabs table.

   The crosstabs table will be generated at the printer.

6. See Figure 6 which shows the output from this analysis.

7. Continue to #4, or press **F10** to quit ANALYSES. At this point you can choose **QUIT** on the EPI INFO Main Menu to end the session.

#4- To generate MEANS or averages of AGE for each category of GENDER:

1. Press **F2**. Highlight **MEANS** and press **ENTER**.

2. Press **F3** and choose **AGE**.

3. Press **F3** and choose **GENDER**.

4. The command line should now read:

   MEANS AGE GENDER

   Press **ENTER** to generate the ANOVA table and statistics.

   A printout of the results of the **MEANS** analysis will be generated at the printer.

5. See Figure 7 which shows the output from this analysis.

6. Press **F10** to quit ANALYSES. At this point you can choose **QUIT** on the EPI INFO Main Menu to end the session.

Figure 5. Output from MEANS AGE; MEANS ALCOHOL; MEANS VIDEOS

```
AGE   ¦  Freq  Percent   Cum.
------+-----------------------
16    ¦    21   45.7%    45.7%
17    ¦     7   15.2%    60.9%
18    ¦     5   10.9%    71.7%
19    ¦     7   15.2%    87.0%
20    ¦     1    2.2%    89.1%
21    ¦     4    8.7%    97.8%
23    ¦     1    2.2%   100.0%
------+-----------------------
Total ¦    46  100.0%

Sum                 =    805.00
Mean                =     17.50
Standard deviation  =      1.83


ALCOHOL ¦  Freq  Percent   Cum.
--------+-----------------------
1       ¦     1    2.2%     2.2%
2       ¦     6   13.3%    15.6%
3       ¦    12   26.7%    42.2%
4       ¦    11   24.4%    66.7%
5       ¦    15   33.3%   100.0%
--------+-----------------------
  Total ¦    45  100.0%

Sum                 =    168.00
Mean                =      3.73
Standard deviation  =      1.14


VIDEOS ¦  Freq  Percent   Cum.
-------+-----------------------
2      ¦     4   10.3%    10.3%
3      ¦    12   30.8%    41.0%
4      ¦     8   20.5%    61.5%
5      ¦    15   38.5%   100.0%
-------+-----------------------
 Total ¦    39  100.0%

Sum                 =    151.00
Mean                =      3.87
Standard deviation  =      1.06
```

Description of Some ANALYSIS Functions and Other Helpful Hints

1) *Function keys in ANALYSIS:*

Seven function keys are listed at the bottom of the ANALYSIS screen:

- **F1 - Help:**   provides help on a number of different ANALYSIS topics;

- **F2 - Commands:**   lists all commands used in ANALYSIS: you can choose commands from this screen to create command statements for analysis;

- **F3 - Variables:**   lists all of the variables contained in your current database: you can choose variables from this screen to create command statements for analysis;

- **F4 - Browse:**   allows you to browse through the database;

- **F5 - Printer on/off:** when the printer is set off, the results will print on the printer: when the printer is set on, the results will not print to printer;

- **F9 - DOS:**   allows you to exit to DOS temporarily;

- **F10 - Quit:**   exits ANALYSIS and returns to the EPI INFO Main Menu.

Figure 6. Output from TABLES GENDER REFERRAL

```
                           REFERRAL
GENDER      |    1     2     3     4     5 | Total
------------+-----------------------------+------
         M  |    4     8     7     3     3 |   25
         F  |    4     4     7     4     2 |   21
------------+-----------------------------+------
     Total  |    8    12    14     7     5 |   46


     An expected value is < 5. Chi square not valid.
            Chi square =       1.34
    Degrees of freedom =          4
             p value = 0.85481294
```

Figure 7. Output from MEANS AGE GENDER

```
                      GENDER
AGE          ¦    M     F ¦ Total
-----------+------------+------
        16 ¦    7    14 ¦    21
        17 ¦    5     2 ¦     7
        18 ¦    2     3 ¦     5
        19 ¦    5     2 ¦     7
        20 ¦    1     0 ¦     1
        21 ¦    4     0 ¦     4
        23 ¦    1     0 ¦     1
-----------+------------+------
     Total ¦   25    21 ¦    46
```

GENDER	Obs	Total	Mean	Variance	Std Dev
M	25	455	18.200	4.250	2.062
F	21	350	16.667	1.133	1.065
Difference			1.533		

GENDER	Minimum	25%ile	Median	75%ile	Maximum	Mode
M	16.000	16.000	18.000	19.000	23.000	16.000
F	16.000	16.000	16.000	17.000	19.000	16.000

ANOVA
(For normally distributed data only)
The p value is equivalent to that for the Student's T Test,
since there are only 2 samples.

Variation	SS	df	MS	F statistic	p-value
Between	26.833	1	26.833	9.471	0.003856
Within	124.667	44	2.833		
Total	151.500	45			

Bartlett's test for homogeneity of variance
Bartlett's chi square =   8.402 deg freedom = 1   p-value = 0.003749

Bartlett's Test shows the variances in the samples to differ.
Use non-parametric results below rather than ANOVA.

Mann-Whitney or Wilcoxon Two-Sample Test (Kruskal-Wallis test for two groups)

Kruskal-Wallis H (equivalent to Chi square) =   8.143
                   Degrees of freedom =   1
                              p value =   0.004324

2) *Helpful Hints on Using ANALYSIS:*

- Instead of choosing commands and variables from the **F2** and **F3** menus, the commands and variables can be typed in by hand. The menus allow you to chose commands and variables without having to memorize or remember commands and variable names. After you have become more experienced in using EPI INFO you may prefer to type commands directly onto the command line to save time.

- Two tutorials are available in the ANALYSIS program. They can be accessed by typing **RUN TUTOR1** or **RUN TUTOR2** in response to the **EPI>** prompt. For example:

  EPI> RUN TUTOR1

- The **LIST** command can be executed in several ways:

  LIST prints out as many variables as will fit across the screen;

  LIST* prints out all variables for all records;

  LIST A B will print out variables **A** and **B** for all records; and

  LIST NOT A B will print out all variables except **A** and **B** for all records.

- The **MEANS** command:

  MEANS AGE calculates the average **AGE;**

  MEANS AGE GENDER calculates the average **AGE** for each category of **GENDER;** and

  MEANS AGE REFERRAL GENDER calculates the average **AGE** for each category of **REFERRAL** within each category of **GENDER**.

  When more than one variable is named in the **MEANS** command, the first variable is a continuous variable and subsequent variables should be categorical variables. In addition, the categorical variables that are selected should be ordered from the variable with the most number of categories to the variable with the least number of categories.

  Using the /N parameter following a MEANS command will withhold the display of the frequencies table, but show all other statistics associated with the MEANS analyses (see p.152).

- The following describes some data manipulation commands that can be used to select specific cases for analyses, organize the data, or compute new variables. In using any of these commands, the statements will remain valid until a new file is read or until you exit from the ANALYSIS program. See the EPI INFO Version 5.0 manual for other more advanced commands that can be used to transform or manipulate data. As well, the EPI INFO help menu (which is accessed by pressing **F1**) will provide more detailed descriptions of the SELECT, SORT, RECODE, DEFINE, IF...THEN, IF...THEN...ELSE, and RECODE commands.

1) **SELECT** can be used to select specific records for analysis, for example,

SELECT GENDER = "MALE" AND AGE < 21

will select only cases where respondents are males under the age of 21. Typing SELECT without any case specification cancels previous select commands.

2) **SORT** can be used to sort cases on selected criteria before listing records, for example,

SORT GENDER REFERRAL AGE

will sort the cases into male and female respondents, and will then sort the cases by referral category, and then by age.

3) **DEFINE** can be used to define a variable name and field type for a new variable. This command is frequently used in combination with **IF** and **RECODE** commands to compute a new variable based on information from other variables, or to recode information, for example,

DEFINE COMPLETE <Y>

defines a new variable, **COMPLETE**, as a Yes/No variable.

4) Values for newly defined variables are conditionally defined by using **IF...THEN** logic statements, for example,

DEFINE COMPLETE <Y>
IF ((ALCOHOL >= 1) OR (DRUGS >= 1) OR (WHYUSE >= 1) OR
(HEALTHIER >= 1) OR (VIDEOS >= 1) OR (DISCUSSION >= 1) OR
(HANDOUTS >= 1)) THEN COMPLETE="Y".

That is, if a respondent completed at least one of the ratings on the client feedback questionnaire, then the client will be considered to have completed the questionnaire.

It is important to cover all conditions when using **IF ... THEN** statements to recode a variable.

The following statement describes when a participant should be considered to have not completed the feedback questionnaire:

IF NOT ((ALCOHOL >= 1) OR (DRUGS >= 1) OR (WHYUSE >= 1) OR
(HEALTHIER >= 1) OR (VIDEOS >= 1) OR (DISCUSSION >= 1) OR
(HANDOUTS >= 1)) THEN COMPLETE="N"

IF...THEN...ELSE statements can also be used to cover all possible value conditions. or example,

> **DEFINE COMPLETE < Y >**
> **IF ((ALCOHOL > = 1) AND (DRUGS > = 1) AND (WHYUSE > = 1) AND**
> **(HEALTHIER > = 1) AND (VIDEOS > = 1) AND (DISCUSSION > = 1) AND**
> **(HANDOUTS > = 1)) THEN COMPLETE="Y" ELSE COMPLETE ="N",**

defines a respondent's status on the feedback questionnaire as complete only if all program component ratings were completed, and as incomplete when one or more usefulness ratings are missing.

5) **RECODE** will re-code values for an existing variable. Before recoding a variable it is best to first DEFINE a new variable to store the newly re-coded data, for example,

> **DEFINE NGENDER #**
> **RECODE GENDER TO NGENDER M=1 F=2,**

will replace all "M" and "F" alphanumeric entries for **GENDER** to 1's and 2's which are stored in the new variable **NGENDER**.

The next example shows how age group categories can be computed using **RECODE**:

> **DEFINE AGEGRP #**
> **RECODE AGE TO AGEGRP 16-19=YOUNGER 20-23=OLDER.**

6) Arithmetic expressions can also be used to create values for newly defined variables. For example,

> **DEFINE OVERALL #.#**
> **OVERALL=(ALCOHOL + DRUGS + WHYUSE + HEALTHIER + **
> **VIDEOS + DISCUSSION+ HANDOUTS)/7**

computes values for the newly defined overall rating variable, with scores that range from 1 to 5.

Appendix B. Description of Lotus 1-2-3

Lotus 1-2-3 is a spreadsheet software that includes the capacity to generate basic statistics as well as graphical display of information. More information on Lotus can be obtained from Lotus Development Canada, Ltd., 10 Bay Street, Toronto, Ontario, M5J 2R8, or by calling 1-800-GO-LOTUS.

Appendix C. Description of Harvard Graphics

Harvard Graphics is a graphics software package that includes the capacity for making a broad range of charts, graphs and other display formats. More information on Harvard Graphics can be obtained from SPC Software Publishing, 1595 Sixteenth Avenue, Suite 303, Richmond Hill, Ontario, L4B 3N9.

The Addiction Research Foundation offers a wide variety of materials that can help you assess and treat addictions, including:

The Directory of Outcome Measures for Addictions Treatment Programs.
$39

This directory can help you to identify the most useful and effective ways to monitor addictions treatment. It includes information on more than 25 measures designed to assess client outcomes regarding substance abuse, other life areas such as depression and self-esteem, and client satisfaction. Each entry includes information on target population, administrative reliability, scientific validity and ability to measure change.

Alcohol & Drug Problems: A Practical Guide for Counsellors
$34.95

Written by experts in the fields of social work, psychology, law and medicine, this book offers "hands-on" information to anyone whose clients may have alcohol and other drug problems. A wide range of topics is explored, including: ethics and professional issues; relapse prevention; dual disorders; dealing with special populations such as physically disabled clients, lesbians and gay men; and related issues, such as working with probation and parole clients, or people with drug and alcohol problems who are HIV-positive.

To order, or for more information on these and other products available through the Addiction Research Foundation:

Please call the ARF Marketing Department at **1-800-661-1111**

or

Write to:

Addiction Research Foundation
Marketing Department
33 Russell Street
Toronto, Ontario
M5S 2S1

The Evaluation Casebook

Using Evaluation Techniques to Enhance Program Quality in Addictions

ARF